PB88-169917

Guidance for the Reregistration of Pesticide Products Containing Chlorpropham as the Active Ingredient

(U.S.) Environmental Protection Agency
Washington, DC

Dec 87

U.S. Department of Commerce
National Technical Information Service
NTIS

PB88-169917

United States
Environmental Protection
Agency

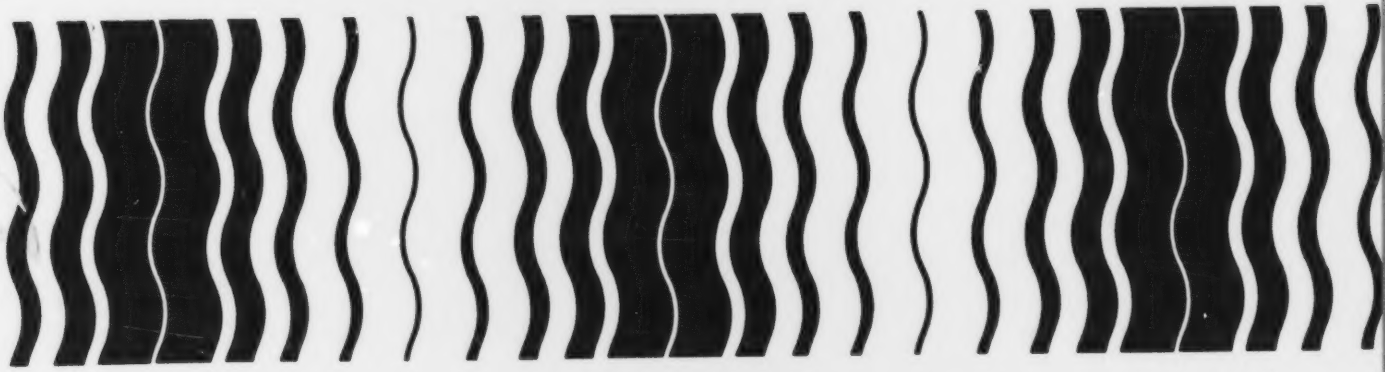
Office of
Pesticides and Toxic Substances
Washington DC 20460

December 1987

Pesticides

EPA

Guidance for the Reregistration of Pesticide Products Containing Chlorpropham as the Active Ingredient



REPRODUCED BY
U.S. DEPARTMENT OF COMMERCE
NATIONAL TECHNICAL
INFORMATION SERVICE
SPRINGFIELD, VA. 22161

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO.	2.	3. Recipient's Accession No. PB88-169917

4. Title and Subtitle

Guidance for the Registration of Pesticide Products Containing CHLORPROPHAM as the Active Ingredient

5. Report Date
December 1987

6.

7. Author(s)
EPA, Office of Pesticide Programs, Registration Division

8. Performing Organization Rept. No.
540/RS-88-033

9. Performing Organization Name and Address
U.S. Environmental Protection Agency
Office of Pesticide Programs
Registration Division TS-767C
401 M Street, SW
Washington, D.C. 20460

10. Project/Task/Work Unit No.

11. Contract(C) or Grant(G) No.
(C)
(G)

12. Sponsoring Organization Name and Address

Same as #9

13. Type of Report & Period Covered

14.

15. Supplementary Notes

16. Abstract (Limit: 200 words)

This document contains information regarding the registration of pesticide products containing the subject active ingredient. The document includes how to register under a registration standard, regulatory position and rationale, and summaries of data requirements and data gaps. Also included is a bibliography containing citations of all studies reviewed by EPA in arriving at the positions and conclusions contained in the standard.

17. Document Analysis a. Descriptors

Pesticides, standards, regulations, manufacturing, chemistry, toxicology, residues, ecology, path of pollutants.

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement: Publicly Available	19. Security Class (This Report) Unclassified	21. No. of Pages 164
	20. Security Class (This Page) Unclassified	22. Price A08 19.95

(See ANSI-Z39.18) See Instructions on Reverse

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)
Department of Commerce

OMB Control No. 2070-0057
Expires 11/89

GUIDANCE FOR THE REREGISTRATION OF PESTICIDE PRODUCTS

CONTAINING

CHLORPROPHAM

AS THE ACTIVE INGREDIENT

OPP NUMBER 018301

CAS NUMBER 101-21-3

CASE NUMBER 0271

December 1987

ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF PESTICIDE PROGRAMS
WASHINGTON, D.C. 20460

1a

TABLE OF CONTENTS

I. Introduction 1

II. Chemical(s) Covered by this Standard 4

- A. Description of Chemical . . . .
- B. Use Profile . . . .
- C. Chemical Structure . . . .

III. Agency Assessment 7

- A. Summary . . . .
- B. Preliminary Risk Assessment . . . .
- C. Other Science Findings . . . .
- D. Tolerance Reassessment . . . .

IV. Regulatory Position and Rationale 17

- A. Regulatory Positions and Rationales . . . .
- B. Criteria for Registration . . . .
- C. Acceptable Ranges and Limits . . . .
- D. Required Labeling . . . .

V. Products Subject to this Standard 24

VI. Requirement for Submission of Generic Data . . 26

- A. What are Generic Data? . . . .
- B. Who Must Submit Generic Data? . . . .
- C. What Generic Data Must be Submitted? . . .
- D. How to Comply with DCI Requirements . . .
- E. Procedures for Requesting a Change in Protocol
- F. Procedures for Requesting Extensions of Time
- G. Existing Stocks Provisions Upon Suspension or Cancellation . . . .

VII. Requirement for Submission of Product-Specific Data 32

VIII. Requirement for Submission of Revised Labeling 33

IX. Instructions for Submission 33

- A. Manufacturing-Use Products (Sole Active) .
- B. Manufacturing-Use Products (Multiple Active)
- C. End-Use Products . . . .
- D. Intrastate Products . . . .
- E. Addresses . . . .

Glossary of Terms and Abbreviations iii

APPENDICES

I. **DATA APPENDICES**

- Guide to Tables
- Table A
- Table B

II. **LABELING APPENDICES**

- Summary of Label Requirements and Table
- 40 CFR 162.10 Labeling Requirements
- Physical/Chemical Hazards Labeling Statements
- Storage Instructions
- Pesticide Disposal Instructions
- Container Disposal Instructions

III. **USE INDEX APPENDIX**

IV. **BIBLIOGRAPHY APPENDICES**

- Guide to Bibliography
- Bibliography

V. **FORMS APPENDICES**

EPA Form 8580-1	FIFRA §3(c)(2)(B) Summary Sheet
EPA Form 8580-6	Certification of Attempt to Enter Into an Agreement with Other Registrants for Development of Data
EPA Form 8580-4	Product-Specific Data Report
EPA Form 8587-27	Generic Data Exemption Statement

GLOSSARY OF TERMS AND ABBREVIATIONS

ADI: Acceptable Daily Intake

ai: Active Ingredient

CAS: Chemical Abstract System (Number)

Core Classifications: A general guide to the acceptability of data for the purpose of supporting registration (invalid, supplementary, minimum, or guideline).

CSF: Confidential Statement of Formula

DNA: deoxyribonucleic acid

EP: End-Use Product

EPA: The Environmental Protection Agency, also "the Agency"

Epicotyl - The growing point of the embryo, which gives rise to the shoot, or aboveground part of the plant.

F_0, F_1: Refers to the generations in a multigeneration study.

FIFRA: The Federal Insecticide, Fungicide, and Rodenticide Act

HDT: Highest Dose Tested

Interim Tolerance - As per 40 CFR 180.319, interim tolerances were formerly established for residues of various pesticides while petitions for tolerances for negligible residues were pending. Note that negligible residue tolerances are no longer established.

LC_{50}: (median lethal concentration) a statistically derived concentration of a substance that can be expected to cause death in 50% of test animals, expressed as weight or volume of test substance per volume of air or water (e.g., mg/L or ppm).

LD_{50}: (median lethal dose) a statistically derived single dose that can be expected to cause death in 50% of animals when administered by the route indicated, expressed as weight of substance per unit weight of test animal (e.g., mg/kg).

LDT: Lowest Dose Tested

LEL: Lowest-Effect Level

MDT: Mid dose tested

MP: Manufacturing-Use Product

MPI: Maximum Permissible Intake

MRID: Master Record Identification (Number) - EPA's system of tracking studies used in support of registrations.

NPDES: National Pollution Discharge Elimination System

NOEL: No-Observed-Effect Level --the maximum dose used in a test which produces no observed effects.

OPP: The Office of Pesticide Programs

OES: Office of Endangered Species, U.S. Fish and Wildlife Service

PADI: Provisional Acceptable Daily Intake --an acceptable daily intake of pesticide residue based on a limited data base.

PAI: Pure Active Ingredient

ppm: parts per million

RACs: Raw Agricultural Commodities

Technical: Active ingredient as manufactured

TGAI: Technical Grade of the Active Ingredient

TMRC: Theoretical Maximum Residue Contribution --an estimate of dietary exposure obtained by multiplying residue tolerance levels for a given pesticide by the average daily per capita food consumption figure, then adding the exposure figures for each crop. TMRC is usually expressed in terms of milligrams of active ingredient per kilogram body weight per day.

I. INTRODUCTION

EPA has established the Registration Standards program in order to provide an orderly mechanism by which pesticide products containing the same active ingredient can be reviewed and standards set for compliance with FIFRA. The standards are applicable to reregistration and future applications for registration of products containing the same active ingredient. Each registrant of a product containing an active ingredient subject to this Standard who wishes to continue to sell or distribute that product must bring his product and labeling into compliance with FIFRA, as instructed by this Standard.

The Registration Standards program involves a thorough review of the scientific data base underlying a pesticide's registration. The purpose of the Agency's review is to reasses the potential hazards arising from the currently registered uses of the pesticide; to determine the need for additional data on health and environmental effects; and to determine whether the pesticide meets the "no unreasonable adverse effects" criteria of FIFRA. In its review EPA identifies:

1. Studies that are acceptable to support the data requirements for the currently registered uses of the pesticide.

2. Additional studies necessary to support continued registration. The additional studies may not have been required when the product was initially registered or may be needed to replace studies that are now considered inadequate.

3. Labeling revisions needed to ensure that the product is not misbranded and that the labeling is adequate to protect man and the environment.

The detailed scientific review, which is not contained in this document but is available upon request[1], focuses on the pesticide active ingredient. The scientific review primarily discusses the Agency's evaluation of and conclusions from available data in its files pertaining to the pesticide active ingredient. However, during the review of these data, the Agency is also looking for potential hazards that may be associated with the EPs that contain the active ingredient. The Agency will apply the provisions of this Registration Standard to EPs if necessary to protect man and the environment.

---

[1] The scientific reviews may be obtained from the Information Services Section, Program Management and Support Division (TS-757C), EPA, 401 M St., SW., Washington, DC 20460.

EPA's reassessment results in the development of a regulatory position, contained in this Registration Standard, on the pesticide and each of its registered uses. See Section IV - Regulatory Postion and Rationale. Based on its regulatory position, the Agency may prescribe a variety of steps to be taken by registrants to maintain their registrations in compliance with FIFRA. These steps may include:

1. Submission of data in support of product registration;

2. Modification of product labels;

3. Modifications to the manufacturing process of the pesticide to reduce the levels of impurities or contaminants;

4. Restriction of the use of the pesticide to certified applicators or other specially trained individuals;

5. Modification of uses or formulation types; or

6. Specification of packaging limitations.

Failure to comply with these requirements may result in the issuance of a Notice of Intent to Cancel or a Notice of Intent to Suspend (in the case of failure to submit data).

In addition, in cases in which hazards to man or the environment are identified, the Agency may initiate a Special Review of the pesticide in accordance with Part 154 of Title 40 of the Code of Federal Regulations (40 CFR Part 154) to examine in depth, the risks and benefits of use of the pesticide. If the Agency determines that the risks of the pesticide's use outweigh the benefits of use, the Agency may propose additional regulatory actions, such as cancellation of uses of the pesticide which have been determined to cause unreasonable adverse effects on the environment.

EPA has authority under the Data Call-In (DCI) provisions of FIFRA section 3(c)(2)(B) to require that registrants submit data to answer our questions regarding the chemical, toxicological, and environmental characteristics and fate of a pesticide. This Registration Standard lists the data EPA believes are necessary to resolve our concerns about this pesticide. These data are listed in the Tables A and B in Appendix I. Failure to comply with the DCI requirements enumerated in this Registration Standard may result in issuance by EPA of a Notice of Intent to Suspend the affected product registrations.

Registrants are reminded that FIFRA section 6(a)(2) requires them to submit factual information concerning possible unreasonable adverse effects of a pesticide at any time that they become aware of such information. Registrants should notify the Agency of any information, including interim or preliminary results of studies, if those results suggest possible adverse effects on man or the environment. This requirement continues as long as the products are registered by the Agency.

II. CHEMICAL COVERED BY THIS STANDARD

A. Description of Chemical

The following chemical is covered by this Registration Standard:

Common Name: Chlorpropham

Chemical Name: Isopropyl N-(3-chlorophenyl) carbamate

CAS Number: 101-21-3

Office of Pesticide Program Shaughnessy Number: 018301

Empirical Formula: $C_{10}H_{12}ClNO_2$

Trade Names: Beet-Kleen, Furloe, Sprout Nip, Spud-Nic, Taterpex, Triherbicide-CIPC, Unicrop CIPC, Chloro IPC, Bud Nip

Year of Initial Registration: 1962

Chemical Family: Carbamate

Description of Physical Characteristics of Chemical:
Off white to light brown fused solid with a melting point of 37 to 40 °C.
Density - ca. 1.2 gram/milliliter (g/ml)
pH - 6.5 to 7.5 and 0.6 to 0.7 g/ml

B. Use Profile

Type of Pesticide: Herbicide and plant regulator.

Pests Controlled: Suckers on tobacco plants, sprouting in stored potatoes, broadleaf weeds, and grasses.

Registered Uses: Terrestrial food and nonfood crop and ornamentals.

Predominant Uses: Alfalfa and ladino clover crops, berry crops, and ornamentals.

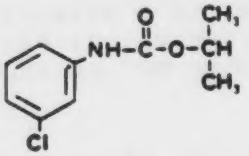
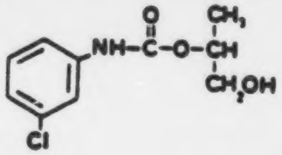
Mode of Activity: Chlorpropham suppresses transpiration and respiration as well as inhibits root growth and epicotyl growth.

Formulation Types Registered: 98% TGAI; 5%, 10.3%, and 20% ai granule (G); 11.9% ai; 15% ai, 22.2% ai, 25% ai, 36% ai and 47% ai emulsifiable concentrate (EC); 46% ai, 46.5% ai, 49.65% ai, 78.4% ai and 78.5% ai liquid ready to use (RTU).

Methods of Application: Chlorpropham is a selective preplant incorporated, preemergence and postemergence herbicide and plant growth regulator. Chlorpropham may be applied by ground or by air.

Application Rates: Alfalfa 1-6 lb ai/A; beans (lima and snap) 4 lb ai/A; perennial grasses (seed crop) no rate given; flowers (annual, biennial, perennial (bulbs)) 4-6 lb ai/A; garlic 2-4 lb ai/A; spinach (fall seeded) 1-2 lb ai/A; clovers 2-4 lb ai/A; onions 4-8 lb ai/A; ornamentals 4-8 lb ai/A; safflower 3-6 lb ai/A; blackberries, raspberries 6 lb ai/A; blueberries 8-12 lb ai/A; cranberries 10-20 lb ai/A; southern peas 4-6 lb ai/A; soybeans 2-4 lb ai/A; sugar beets (seed crop) 3-4 lb ai/A; tomatoes 4 lb ai/A.

C. Chemical Structure

STRUCTURE	CHEMICAL NAME	COMMON NAME OR ABBREVIATION
1/ 	isopropyl 3-chlorocarbanilate	Chlorpropham or CIPC
2/ 	1-hydroxy-2-propyl 3-chlorocarbanilate	isopropyl-OH-CIPC

1/ Chemical structure for the herbicide chlorpropham.

2/ Chemical structure for the metabolite 1-hydroxy-2-propyl 3-chlorocarbanilate.

III. AGENCY ASSESSMENT

A. Summary

No acceptable data are available for acute oral, dermal, or inhalation toxicity; primary eye or dermal irritation; or dermal sensitization studies. These studies are required.

No data are available for subchronic oral, dermal or inhalation toxicity or subchronic neurotoxicity studies. Subchronic dermal (21-day) and subchronic oral toxicity studies in the rodent and non-rodent are required.

Chronic toxicity studies in the rodent and non-rodent are required.

Acceptable data include rat and rabbit teratology studies. The No Observed Effect Level (NOEL) in the rat for maternal toxicity is 100 mg/kg/day and for developmental toxicity 350 mg/kg/day. The rabbit teratology study showed the NOEL for developmental toxicity to be 125 mg/kg/day and for maternal toxicity 250 mg/kg/day. Sufficient data are available on the reproductive toxicity of chlorpropham. Chlorpropham caused little toxicity and virtually no effect on reproduction in rats administered chlorpropham in their diets at doses of 1000, 3,000 and 10,000 parts per million (ppm).

A complete toxicological assessment is not possible until the additional toxicology data required in Tables A and B of this document are submitted.

Available data are insufficient to fully assess the environmental fate of chlorpropham. The data requirement for a hydrolysis study has been satisfied. Photodegradation in water and soil, aerobic and anaerobic soil metabolism, leaching and absorption/desorption, volatility (lab), field dissipation, irrigated crops and fish accumulation studies must be submitted. Additional rotational crop studies (confined and field) are also required.

The Agency is concerned about the potential for ground water contamination by chlorpropham. The Agency has determined that additonal data are needed to characterize the potential for chlorpropham to enter ground water; therefore chlorpropham is the subject of a ground water DCI notification.

Available data are insufficient to fully assess the ecological effects of chlorpropham. Avian studies, aquatic studies and residue monitoring studies must be submitted.

B. Preliminary Risk Assessment

Toxicology Characteristics

The acute toxicity, primary eye irritation, primary dermal irritation, and dermal sensitization data available are unacceptable. These studies are required.

Subchronic Toxicity Studies

No acceptable data are available on the subchronic oral toxicity of chlorpropham. Studies are required in the rodent and the nonrodent. If adequate chronic rodent and nonrodent studies are submitted, these subchronic studies will not be required. No data are available on the 21-day subchronic dermal, subchronic inhalation and subchronic neurotoxicity studies. The 21-day subchronic dermal toxicity study is required.

In a 21-day smoke inhalation study, standard samples of tobacco were spiked with chlorpropham and the metabolites 2-hydroxychlorpropham and 4-hydroxychlorpropham. Mice were exposed to smoke from these samples of tobacco in a head-only method, at nominal concentrations of chlorpropham at 0, 60, 180, and 600 ppm. Dose-related increases in kidney and spleen weights were reported to have occurred at all dose levels. Although this study was considered acceptable, it failed to demonstrate a NOEL.

If chlorpropham residues on tobacco greater than 0.1 ppm are detected, an additional smoke inhalation study will be required.

Chronic Toxicity and Oncogenicity Studies

There are currently no acceptable oncogenicity studies available with chlorpropham. Studies are required in two species.

In a supplementary rat study, 25 rats/sex/group were dosed at 0, 10, 100, and 1000 mg/kg/day for two years. A decreased body weight over control values was accompanied by an increase in food consumption in the highest dose group. A depressed hematocrit and hemoglobin concentration first appeared in data analyses conducted on the 3 month bleedings and continued to the end of the study in the highest dose group. The hemoglobin concentration was approximately 93% (not reported to be statistically significant) of controls in the 2,000 ppm dose group. Organ/body weight ratios were increased for the liver (146% and 126%), and spleen (785% and 382%) in the males and females, respectively, dosed at the 20,000 ppm highest dose tested (HDT); but with only 1 and 3 animals surviving to terminal sacrifice in males and females, respectively. Since most animals died before terminal sacrifice, and autolysis was frequent, the failure to find histopathology at the highest dose level is meaningless. Survival at the 2,000 ppm mid dose tested (MDT) dose level was only five males and 16 females.

This study is unacceptable because of inadequate numbers of study animals, histology, and other reasons including test compound identification.

In a supplementary dog study, 2 dogs/sex/group were dosed at the same dietary levels as rats and demonstrated similar toxicity, and at the same dietary level. Reduced body weight, increased spleen/body weight ratio, and reduced hematocrit and hemoglobin concentration occurred in males and females in the high dose group. The NOEL was 2,000 ppm or 40.8-54.8 mg/kg/day. This study is unacceptable because only 2 animals/sex/group were used, histology was inadequately reported, and other deficiencies, including test material identification were noted.

There are currently no acceptable chronic studies available. Chronic studies in the rodent and non-rodent are required.

Teratology

The data requirement for a teratology study in the rat and rabbit have been satisfied.

A teratology study was conducted on 20 rats/group using chlorpropham technical at 0, 100, 350, and 1000 mg/kg/day. Maternal toxicity was noted at 350 and 1000 mg/kg/day in the form of body weight decrements and increased spleen weights. No terata occurred, but developmental toxicity occurred at 1000 mg/kg/day in the form of increased incidence of rudimentary 14th rib. The NOEL for maternal toxicity is 100 mg/kg/day (dose level that produces no observable effects in pregnant rats), and for developmental toxicity, 350 mg/kg/day.

A teratology study was conducted on 16 rabbits/group using chlorpropham technical at 0, 125, 250, and 500 mg/kg/day. Maternal toxicity was noted at 500 mg/kg/day in the form of reduced weight gain, anorexia, reduced fecal output, and blood-stained urine. No statistically significant increase in terata occurred, but developmental toxicity occurred at 250 and 500 mg/kg/day in the form of postimplantation loss. The NOEL for developmental toxicity is 125 mg/kg/day (dose level that produces no observable effects in the embryo or fetuses of rabbits), and for maternal toxicity 250 mg/kg/day.

Reproduction

Sufficient data are available on the reproductive toxicity of chlorpropham. Chlorpropham administered in the diet to rats (15 males and 30 females per group) at doses of 1000, 3000, and 10,000 ppm caused little toxicity and virtually no effect on reproduction. Mating and fertility indexes in the F_0 and F_1 rats were not significantly reduced. Similarly, gestation length, litter size, and survival of F_0 and F_1 pups were not affected. Body weight gain was slowed in F_0 and F_1 adult rats dosed at 3000 and 10,000 ppm, but no effect was seen at the 1000 ppm dose level. Dose-related effects were seen on histological examination of F_0 and F_1 adults, where brown pigment granules were seen in the reticuliendothelial cells of the liver, and the convoluted tubular epithelial cells of the kidney in the 3000 and 10,000 ppm dose level groups. Hypercellularity of the bone marrow was also seen in these two dose groups. Body weight and organ weight changes in the F_1 pups (lactation day 21) were not significant; F_2 male pups had significant reductions in absolute and relative splenic weights. In F_1 adults, a severe increase in absolute and relative spleen weights was seen in males (10,000 ppm) and females (3000 and 10,000 ppm).

Measurements of cholinesterase levels in the brain, plasma, and erythrocytes of F_1 rats failed to demonstrate any significant changes.

Mutagenicity

The available data are acceptable for demonstrating no mutagenic effects in this test system. The test system was the Mouse Lymphoma (L5178y+/-) and chlorpropham technical. The concentrations of the test material used ranged from 13 to 75 ug/ml (resulting in 100 to 41% growth) in the nonactivated system, and 13 to 100 ug/ml (resulting in 52 to 80% growth) in the activated system; thus both systems demonstrated toxicity and were negative for mutagenicity.

Studies are required on tests for other genotoxic effects and structural chromosome aberrations.

Metabolism

There is currently no acceptable animal metabolism study with chlorpropham. Limited data is available from the literature.

Special studies may be necessary on a metabolite of chlorpropham (p-methoxy-chlorpropham) found in potatoes and possibly in animals. This metabolite has been found at levels as high as 0.17 ppm in treated raw potatoes and 0.063 ppm in french fried potatoes. If p-methoxy-chlorpropham is not a metabolic product produced by chlorpropham dosed rats, then mammalian testing may be required for this metabolite. However, if p-methoxy-chlorpropham is a metabolic product produced by chlorpropham dosed rats (i.e, the required metabolism studies) then the required toxicology studies will adequately assess the potential hazards of p-methoxy-chlorpropham. The acute oral (rat), teratology (rat), and mutagenicity studies may be required to depict the toxicity of this metabolite.

In addition, if the plant and livestock metabolism and residue studies reveal metabolites which are present at significant levels, additional studies depicting their toxicity may also be required.

C. Other Science Findings

Environmental Characteristics

Available data are insufficient to fully assess the environmental fate of chlorpropham. The data requirement for a hydrolyis study has been satisfied.

A hydrolysis study showed that chlorpropham is relatively stable in sterile water in the dark. After 32 days in aqueous buffered solutions at pH 4, 7, and 9 held in the dark at 40°C, about 90% of the applied chlorpropham remained undegraded.

The remaining environmental fate studies are inadequate, but supplementary data indicated that chlorpropham dissipates with a half-life of <14 days in the upper 3 inches (parent compound) of silty clay loam and silt loam soils regardless of site or application procedure (incorpoated or suface-applied).

Fish accumulation data indicated that chlorpropham bioaccumulated in the skinless fillet of a bluegill sunfish to <100 times the levels in water.

Supplementary data indicate that chlorpropham accumulated in rotational crops planted 12 months after treatment.

Reentry data are not required because available toxicological data do not indicate a need for reentry data.

The Agency is concerned about pesticide residues reaching ground water. The potential for chlorpropham to reach ground water cannot be assessed since no leaching data are available. Taking into consideration chlorpropham's high solubility and its relative stability in water and the mobility of a related chemical, propham, chlorpropham can be expected to leach and thus might enter ground water.

Chlorpropham is the subject of a ground water DCI notification and additional data are needed to fully characterize the potential for it to enter ground water.

Ecological Characteristics

Available data are insufficient to fully assess the ecological effects of chlorpropham.

Toxicity to Birds

A supplementary study indicates that chlorpropham is practically nontoxic to waterfowl (mallard LD_{50} is greater than 2000 mg/kg).

Avian acute toxicity studies must be submitted.

Toxicity to Fish and Aquatic Invertebrates

A core study indicates that chlorpropham is moderately toxic to coldwater and warmwater freshwater fishes (bluegill sunfish LC_{50} = 6.3-6.8 ppm; rainbow trout LC_{50} = 3.02-5.7 ppm).

Aquatic toxicity studies are required.

Special Testing

Residue monitoring studies will be required to support reliable ecological risk assessments.

Product Chemistry

The Agency has evaluated the available data which identify the composition, beginning materials and manufacturing process and discuss the physical and chemical properties of chlorpropham. The Agency has determined that these data must be resubmitted for each pesticide. New requirements have been introduced, and previously submitted data must be updated.

Residue Chemistry

Metabolism

The metabolism of chlorpropham (CIPC) in growing plants has been adequately described. Additional data are required regarding the metabolism of chlorpropham in stored potato tubers treated postharvest and in livestock (ruminants and poultry). Although the available data for dairy animals are inadequate, the following metabolites have been identified in milk: isopropyl 3-chloro-4-hydroxycarbanilate and 3-chloro-4-hydroxyacetanilide. Although tolerances for chlorpropham and its metabolite isopropyl-OH-CIPC and interim tolerances for chlorpropham *per se* have been established, the tolerance definition will be reassessed on receipt of the required metabolism data.

D. Tolerance Reassessment

Tolerances have been established for residues of chlorpropham in a variety of RACs, in meat, fat, and meat byproducts (40 CFR 180.181; 40 CFR 180.319 interim tolerances). EPA has evaluated the residue and toxicology data supporting tolerances, and has addressed the following regulatory issues:

- Whether the current tolerances and food additive regulations are sufficient to cover the actual residues resulting from use (including uses registered under FIFRA section 24(c) and intrastate uses).
- Whether group tolerances can be established in accordance with 40 CFR 180.34(f).
- Whether, in the absence of tolerances, restrictions on use, grazing, or feeding of treated commodities are necessary.
- Whether the tolerances are expressed accurately and in current terminology.

The regulatory determinations resulting from EPA's review are set out in Section IV.A., Regulatory Positions and Rationales.

Tolerances have been established for residues of chlorpropham and isopropyl-OH-CIPC at 50 ppm in or on potatoes and at 0.2 ppm in or on soybeans.

Interim tolerances have been established for residues of chlorpropham *per se* in the following RACs:

Commodities	Parts Per Million (ppm)
Hay of alfalfa, clover, and grass	50
Alfalfa, clover, and grass	20
Beans (dry and succulent), blackberries, blueberries, cranberries, peas (dry and succulent), raspberries, spinach, and sugar beet tops	0.3
Carrots, garlic, onions, rice grain, safflower seed, sugar beet roots, and tomatoes	0.1
Eggs; milk; and the meat, fat, and meat byproducts of cattle, goats, hogs, horses, poultry, and sheep	0.05

1. Residue Data

The residue data reviewed in support of these tolerances include the following:

a. Data on the nature of the residue in both plants and animals, including identification of major metabolites and degradates of chlorpropham. The established tolerances are based on occurrence of chlorpropham (CIPC) and its metabolite isopropyl-OH-CIPC. The interim tolerances are based on occurrence of chlorpropham *per se*.

b. Radiolabeled studies on the uptake, translocation, and metabolism of chlorpropham in plants which show that residues appear in the shoots of soybeans, alfalfa, and cucumber.

c. Radiolabeled studies on the metabolism and translocation of chlorpropham in cows and chickens, which show that ruminants and poultry fed preconditioning diets of unlabeled chlorpropham, followed by $[^{14}C]$chlorpropham will accumulate ^{14}C-residues in milk and eggs, in fat, muscle, kidney and liver tissues and will eliminate ^{14}C-activity primarily in urine and in the "excreta" of chickens.

d. Analytical methodology for determining the levels of residues of chlorpropham in plants and animals. Adequate spectrophotometric and gas-liquid chromatographic methods exist for collection of data on combined residues of chlorpropham and its metabolite isopropyl-OH-CIPC from plant and animal commodities.

e. Storage stability data demonstrating that residues of chlorpropham plus isopropyl-OH-CIPC are stable in or on frozen plant commodities for up to 21 months. No data are available for animal tissues or milk.

f. Data on the magnitude and levels of residues of chlorpropham in individual RACs, animal products, and processed food and feed items. The metabolism of chlorpropham in growing plants has been adequately described. The conclusions regarding the adequacy of data for all commodities are subject to change until the plant metabolism issues are successfully resolved.

2. Toxicology Data

The toxicology data considered in support of the tolerances include a rat teratology study with the NOEL for maternal toxicity of 100 mg/kg/day and for developmental toxicity 350 mg/kg/day, a rabbit teratology study with the NOEL for maternal toxicity 250 mg/kg/day and 125 mg/kg/day for developmental toxicity; and a rat reproduction study with a reproductive NOEL $\geq$ 500 mg/kg/day (HDT) and a systemic NOEL = 50 mg/kg/day (LDT). Refer to the toxicology section (Section III B, Preliminary Risk Assessment) for detailed information on available data and additional requirements. Also refer to data tables for specific requirements.

3. Tolerances Issued

Tolerances are established for chlorpropham (CIPC) and its metabolite 1-hydroxy-2-propyl-3'-chlorocarbanilate (calculated as CIPC) in or on potatoes and soybeans. Interim tolerances are established for CIPC in or on the following RACs: Hay of alfalfa, clover, and grass; alfalfa, clover, and grass; beans (dry and succulent), blackberries, blueberries, cranberries, peas (dry and succulent), raspberries, spinach, sugar beet tops, carrots, garlic, onions, rice grain, safflower seed, sugar beet roots, tomatoes, eggs, milk, and the meat, fat, and meat byproducts of cattle, goats, hogs, horses, poultry, and sheep.

Canadian tolerances have been established for residues of chlorpropham in or on potatoes, snap beans, soybeans, and cranberries.

No Mexican tolerances or Codex Maximum Residue Limits (MRLs) have been established for chlorpropham.

IV. REGULATORY POSITION AND RATIONALE

A. Regulatory Positions and Rationales

1. The Agency is not initiating a Special Review of chlorpropham at this time.

Rationale: Since available data are limited, the Agency is not yet able to make a determination as to whether any of the criteria specified in 40 CFR 154.7 have been met or exceeded.

2. The Agency is requiring submission of environmental fate data.

Rationale: Such data is required by 40 CFR 158.130. In addition the Agency is concerned about the potential contamination of ground water. The Agency believes that chlorpropham has this potential based on such factors as chemical structure, solubility, and use patterns. These concerns cannot be adequately addressed until sufficient data are submitted and evaluated.

3. The Agency will not approve any significant new food uses* of chlorpropham until additional residue chemistry data are available to assess existing uses.

Rationale: It is Agency policy not to establish significant new uses where major data gaps exist. When additional data are evaluated, the Agency will determine whether significant new food uses may be established.

4. The Agency is requiring registrants to submit residue monitoring studies.

Rationale: These studies will be required to quantitate the residue levels resulting from terrestrial non-food, and aquatic food crop uses of chlorpropham. These field studies will be valuable in supporting theoretical hazard assessments made from laboratory acute and chronic studies.

5. The Agency is requiring supporting data for the established tolerance for residues of chlorpropham and isopropyl-OH-CIPC in or on potatoes.

---

* Significant new use is defined in 44 FR 27934, May 11, 1979. In the case of a new food or feed use, the Agency will consider as significant an increase in Theoretical Maximum Residue Contribution of greater than 1 percent.

Rationale: The available data are insufficient to assess the established tolerance.

6. The Agency is requiring that registrants propose an appropriate permanent tolerance for chlorpropham residues of concern in or on carrots, sugar beet roots, sugar beet tops, garlic, onions, spinach, beans, tomatoes, blackberries, blueberries, cranberries, raspberries, alfalfa forage, alfalfa hay, grass forage, grass hay, clover forage, clover hay and safflower.

Rationale: On submission and acceptance of all required data and/or tolerance proposals, the interim tolerances will be revoked concomitant with the establishment of permanent tolerances for chlorpropham residues in or on these commodities by amendment to 40 CFR 180.181.

7. Additional supporting data for a group tolerance must be submitted if the registrant seeks a crop group tolerance.

Rationale: The available data are insufficient to determine if a group tolerance is appropriate for bulb vegetables, root and tuber vegetables, leafy vegetables (except Brassica), legume vegetables, fruiting vegetables (except cucurbits), small fruits and berries, nongrass animal feeds (forage, fodder, straw and hay).

8. The Agency is requiring additional data depicting the potential for concentration of chlorpropham residues of concern (a) in meal, hulls, soapstock, crude oil, refined oil, and the resulting "grain" dust processed from soybean seeds bearing measurable, weathered residues; (b) in potato granules, potato chips, and potato peels (wet and dried) processed from raw tubers bearing measurable weathered residues; (c) in safflower meal and oil processed from safflower seed bearing measurable weathered residues; (d) in dried pulp, molasses, and refined sugar processed from sugar beet roots bearing measurable weathered residues; and (e) in dry pomace, puree, catsup, and juice processed from tomatoes bearing measurable weathered residues.

Rationale: Support for these positions are respectively as follows: (a) The data submitted from processing studies do not depict processed commodity samples derived from soybean seed bearing measurable weathered residues and no data were submitted depicting residues in "grain" dust from soybeans. (b) The analysis of potato peels was not matched with corresponding analysis of whole tubers to determine the degree of concentration of residues. (c) No processing study was submitted. (d) The studies failed to analyze molasses and refined sugar, and did not use roots bearing measurable weathered residues. (e) No data pertaining to the potential for residue concentration in processed products of tomatoes were submitted.

9. A tolerance must be proposed and supporting data submitted for birdsfoot trefoil forage and birdsfoot trefoil hay.

Rationale: The registrant must either propose appropriate tolerances or remove this commodity from the pertinent product labels.

10. The Agency will revoke interim tolerances for residues of chlorpropham *per se* in or on rice grain and peas (dry and succulent).

Rationale: Currently no registered uses exist for these commodities.

11. The Agency has identified certain data that will receive immediate review when submitted.

Rationale: Certain data are essential to the Agency's assessment of this pesticide and its uses and/or may trigger the need for further studies which should be initiated as soon as possible. The following studies have been identified to receive priority review as soon as they are received by the Agency:

§158.125 Residue Chemistry

171-4	Nature of the Residue of Plants
171-4	Nature of the Residue of Animals

§158.130 Environmental Fate

161-2	Photodegradation (in water)
161-3	Photodegradation (on soil)
162-1	Aerobic Soil Metabolism
162-2	Anaerobic Soil Metabolism
163-1	Leaching and Adsorption/Desorption
163-2	Volatility (lab)
164-1	Dissipation (soil)
165-1	Rotational Crops (confined)
165-3	Irrigated Crops
165-4	Accumulation (in fish)

§158.135 Toxicology

81-1	Acute oral toxicity (rat)
81-2	Acute dermal toxicity (rabbit)
81-3	Acute inhalation (rat)
81-4	Primary eye irritation
81-5	Primary dermal irritation
81-6	Dermal sensitization
82-2	21 day dermal (rabbit)
83-1	Chronic toxicity (rodent and non-rodent)
83-2	Oncogenicity (rat and mouse)
84-2	Chromosomal aberration
	Other mechanisms of mutagenicity
85-1	General metabolism

§158.145 Wildlife and Aquatic Organisms

70-1	Residue monitoring protocol and studies
71-1	Avian acute oral
71-2	Avian subacute dietary
72-1	Acute freshwater fish
72-2	Acute invertebrate acute
72-3	Acute estuarine and marine organism
72-4	Fish early life stage/aquatic invertebrate life cycle
72-5	Fish life cycle

§158.150 Plant Protection

122-1	Seedling germination/seedling emergence
122-1	Vegetative Vigor
122-2	Aquatic plant growth

12. While data gaps are being filled, currently registered MPs and EPs containing chlorpropham as the sole active ingredient may be sold, distributed, formulated and used, subject to the terms and conditions specified in this Standard. Registrants must provide or agree to develop additional data, as specified in the Data Appendices, in order to maintain existing registrations.

Rationale: Under FIFRA, the Agency does not normally cancel or withhold registration simply because data are missing or are inadequate (see FIFRA sections 3(c)(2)(B) and 3(c)(7)).

Issuance of this Standard provides a mechanism for identifying data needs. These data will be reviewed and evaluated, after which the Agency will determine if additional regulatory changes are necessary.

B. Criteria for Registration

To be registered or reregistered under this Standard, products must contain chlorpropham as the sole active ingredient, bear required labeling, and conform to the product composition, acute toxicity limits, and use pattern requirements listed in this section.

C. Acceptable Ranges and Limits

1. Product Composition Standard

To be registered or reregistered under this Standard, MPs must contain chlorpropham as the sole active ingredient. Each MP formulation proposed for registration must be fully described with an appropriate certification of limits, stating maximum and minimum amounts of the active ingredient and inert ingredients which are present in products, as well as impurities found at greater than 0.1 percent.

2. Acute Toxicity Limits

The Agency will consider registration of technical grade and MPs containing chlorpropham provided that the product labeling bears appropriate precautionary statements for the acute toxicity category in which each product is placed.

3. Use Patterns

To be registered under this Standard, MPs may be labeled for formulation into EPs only for the commodities listed in Appendix III, EPA Compendium of Acceptable Uses--Chlorpropham. The EPA Compendium of Acceptable Uses lists all acceptable uses, as well as approved maximum application rates and frequencies.

D. Labeling

All MPs (and EPs, if covered by this Standard) must bear appropriate labeling as specified in 40 CFR 162.10. Appendix II contains information on label requirements.

No pesticide product containing chlorpropham may be released for shipment by the registrant after January 1989, unless the product bears an amended label which complies with the requirements of this Standard.

No pesticide product containing chlorpropham may be distributed, sold, offered for sale, held for sale, shipped, delivered for shipment, or received and (having been so received) delivered or offered to be delivered by any person after January 1990 unless the product bears an amended label which complies with the requirements of this Standard.

In addition to the above, the following information must appear on the labeling:

1. Ingredients Statement

The ingredient statement for MPs must list the active ingredient as:

Isopropyl N-(3-chlorophenyl)carbamate . . . . %

2. Use Pattern Statements

All MPs must state that they are intended for formulation into EPs for acceptable use patterns. Labeling must specify sites, which are listed in Use Patterns, Section C.3. However, no use may be included on the label where the registrant fails to agree to comply with the data requirements in Table A for that use pattern.

3. Precautionary Statements

Statements for Manufacturing Use Products

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

Statement for End-Use Products

Terrestrial Food and Nonfood Crop

Do not apply directly to water or wetlands (swamps, bogs, marshes, potholes). Do not apply where runoff is likely to occur. Do not contaminate water by cleaning of equipment or disposal of wastes.

V. PRODUCTS SUBJECT TO THIS STANDARD

All products containing one or more of the pesticides identified in Section II.A. are subject to certain requirements for data submission or changes in composition, labeling or packaging of the product. The applicable requirements depend on whether the product is a manufacturing or end use product and whether the pesticide is the sole active ingredient or one of multiple active ingredients.

Products are subject to this Registration Standard as follows:

A. Manufacturing use products containing this pesticide as the sole active ingredient are subject to:

1. The restrictions (if any) upon use, composition, or packaging listed in Section IV, if they pertain to the manufacturing use product.
2. The data requirements listed in Tables A and B[2]
3. The labeling requirements specified for manufacturing use products in Section IV.
4. Administrative requirements (application forms, Confidential Statement of Formula, data compensation provisions) associated with reregistration.

---

[2] Data requirements are listed in the three Tables in Appendix I of this Registration Standard. The Guide to Tables in that Appendix explains how to read the Tables.

Table A lists generic data requirements applicable to all products containing the pesticide subject to this Registration Standard. Table B lists product-specific data applicable to manufacturing use products. The data in Tables A and B need not be submitted by a producer who is eligible for the formulator's exemption for that active ingredient.

Table C lists product-specific data applicable to end use products. The Agency has decided that, in most cases, it will not require the submission of product-specific data for end use products at this time. Therefore most Registration Standards do not contain a Table C.

B. Manufacturing use products containing this pesticide as one of multiple active ingredients are subject to:

1. The data requirements listed in Table A.

2. The labeling requirements specified for manufacturing use products in Section IV.

C. End use products containing this pesticide as the sole active ingredient are subject to:

1. The restrictions (if any) upon use, composition, or packaging listed in Section IV if they pertain to the end use product.

2. If eligible for the formulator's exemption[3], the data requirements listed in Table C.

3. If not eligible for the formulator's exemption, the data requirements listed in Table A and the data requirements listed in Table C.

4. The labeling requirements specified for end use products in Section IV.

D. End use products containing this pesticide as one of multiple active ingredients are subject to:

1. If not eligible for the formulator's exemption, the date requirements listed in Tables A and C.

---

[3] If you purchase from another producer and use as the source of your active ingredient only EPA-registered products, you are eligible for the formulator's exemption for generic data concerning that active ingredient (Table A) and product-specific data for the registered manufacturing use product you purchase (Table B).

Two circumstances nullify this exemption:

1) If you change sources of active ingredient to an unregistered product, formulate your own active ingredient, or acquire your active ingredient from a firm with ownership in common with yours, you individually lose the exemption and become subject to the data requirements in Table A.

2) If no producer subject to the generic data requirements in Table A agrees to submit the required data, all end use producers lose the exemption, and become subject to those data requirements.

2. If eligible for the formulator's exemption, the data requirements listed in Table C.

3. The labeling requirements specified for end use products in Section IV.

VI. REQUIREMENT FOR SUBMISSION OF GENERIC DATA

This portion of the Registration Standard is a notice issued under the authority of FIFRA sec. 3(c)(2)(B). It refers to the data listed in Table A, which are required to be submitted by registrants to maintain in effect the registration of products containing this active ingredient.[4]

A. What are generic data?

Generic data pertain to the properties or effects of a particular active ingredient. Such data are relevant to an evaluation of all products containing that active ingredient regardless of whether the product contains other ingredients (unless the product bears labeling that would make the data requirement inapplicable).

Generic data may also be data on a "typical formulation" of a product. "Typical formulation" testing is often required for ecological effects studies and applies to all products having that formulation type. These are classed as generic data, and are contained in Table A.

B. Who must submit generic data?

All current registrants are responsible for submitting generic data in response to a data request under FIFRA sec. 3(c)(2)(B) (DCI Notice). EPA has decided, however, not to require a registrant who qualifies for the formulator's exemption (FIFRA sec. 3(c)(2)(D) and § 152.85) to submit generic data in response to a DCI notice if the registrant who supplies the active ingredient in his product is complying with the data request.

If you are granted a generic data exemption, you rely on the efforts of other persons to provide the Agency with the required data. If the registrants who have committed to generate and submit the required data fail to take appropriate steps to meet the requirements or are no longer in compliance with this data requirements notice, the Agency will consider that both they and you are not in compliance and will normally initiate proceedings to suspend the registrations of both your product(s) and their product(s) unless you commit to submit and submit the required data in the specified timeframe. In such cases, the Agency generally will not grant a time extension for submitting the data.

---

[4] Registrations granted after issuance of this Standard will be conditioned upon submission or citation of the data listed in this Registration Standard.

If you are not now eligible for a formulator's exemption, you may qualify for one if you change your source of supply to a registered source that does not share ownership in common with your firm. If you choose to change sources of supply, the Confidential Statement of Formula must identify the new source(s) and you must submit a Formulator's Exemption Statement form.

If you apply for a new registration for products containing this active ingredient after the issuance of this Registration Standard, you will be required to submit or cite generic data relevant to the uses of your product if, at the time the application is submitted, the data have been submitted to the Agency by current registrants. If the required data have not yet been submitted, any new registration will be conditioned upon the new registrant's submission or citation of the required data not later than the date upon which current registrants of similar products are required to provide such data. See FIFRA sec. 3(c)(7)(A). If you thereafter fail to comply with the condition of that registration to provide data, the registration may be cancelled (FIFRA sec. 6(e)).

C. What generic data must be submitted?

You may determine which generic data you must submit by consulting Table A. That table lists the generic data needed to evaluate current uses of all products containing this active ingredient, the uses for which such data are required, and the dates by which the data must be submitted to the Agency.

D. How to comply with DCI requirements.

Within 90 days of your receipt of this Registration Standard, you must submit to EPA a completed copy of the form entitled "FIFRA Section 3(c)(2)(B) Summary Sheet" (EPA Form 8580-1, enclosed) for each of your products. On that form you must state which of the following six methods you will use to comply with the DCI requirements:

1. You will submit the data yourself.

2. You have entered into an agreement with one or more registrants to jointly develop (or share in the cost of developing) the data, but will not be submitting the data yourself. If you use this method, you must state who will submit the data on which you will rely. You must also provide

EPA with documentary evidence that an agreement has been formed which allows you to rely upon the data to be submitted. Such evidence may be: (1) your letter offering to join in an agreement and the other registrant's acceptance of your offer, (2) a written statement by the parties that an agreement exists, or (3) a written statement by the person who will be submitting the data that you may rely upon its submission. The Agency will also require adequate assurance that the person whom you state will provide the data is taking appropriate steps to secure it. The agreement to produce the data need not specify all of the terms of the final arrangement between the parties or a mechanism to resolve the terms.

If you and other registrants together are generating or submitting requested data as a task force or consortium, a representative of the group should request a Joint Data Submitter Number from the Registration Support and Emergency Response Branch, Registration Division. The request must include the following information:

a. A list of the members of the consortium;
b. The name and address of the designated representative of the consortium, with whom EPA will correspond concerning the data;
c. Identity of the Registration Standard containing the data requirement;
d. A list of the products affected (from all members of the consortium); and
e. Identification of the specific data that the consortium will be generating or submitting.

The Agency will assign a number to the consortium, which should be used on all data submissions by the consortium.

3. You have attempted to enter into an agreement to jointly develop data, but no other registrant has accepted your offer. You request that EPA not suspend your registration for non-compliance with the DCI. EPA has determined that, as a general policy, it will not suspend the registration of a product when the registrant has in good faith sought and continues to seek to enter into a data development/cost sharing program, but the other registrants developing the data have refused to accept its offer. [If your offer is accepted, you may qualify for Option 2 above by entering into an agreement to supply the data.]

In order to qualify for this method, you must:

1. File with EPA a completed "Certification of Attempt to Enter into an Agreement with other Registrants for Development of Data" (EPA Form 8580-6, enclosed).

2. Provide us with a copy of your offer to the other registrant and proof of the other registrant's receipt of your offer (such as a certified mail receipt). Your offer must, at a minimum, contain the following language or its equivalent:

> [Your company name] offers to share in the burden of producing the data required pursuant to FIFRA sec. 3(c)(2)(B) in the [name of active ingredient] Registration Standard upon terms to be agreed or failing agreement to be bound by binding arbitration as provided by FIFRA section 3(c)(2)(B)(iii).

The remainder of your offer may not in any way attempt to limit this commitment. If the other registrant to whom your offer is made does not accept your offer, and if the other registrant informs us on a DCI Summary Sheet that he will develop and submit the data required under the DCI, then you may qualify for this option. In order for you to avoid suspension under this method, you may not later withdraw or limit your offer to share in the burden of developing the data.

In addition, the other registrant must fulfill its commitment to develop and submit the data as required by this Notice in a timely manner. If the other registrant fails to develop the data or for some other reason would be subject to suspension, your registration as well as that of the other registrant will normally be subject to initiation of suspension proceedings, unless you commit to submit and submit the required data in the specified timeframe. In such cases, the Agency generally will not grant a time extension for submitting the data.

4. You request a waiver of the data requirement. If you believe that a data requirement does not (or should not) apply to your product or its uses, you must provide EPA with a statement of the reasons why you believe this is so. Your statement must address the specific composition or use factors that lead you to believe that a requirement does not apply. Since the Agency has carefully considered the composition and uses of pesticide products in determining that a data requirement applies, EPA does not anticipate that many waivers will be granted. A request for waiver does not extend the timeframes for developing required data, and if your waiver request is denied, your registration may be suspended if you fail to submit the data.

5. You request that EPA amend your registration by deleting the uses for which the data are needed. You are not required to submit data for uses which are no longer on your label.

6. You request voluntary cancellation of the registration of your product(s) for which the data are needed.

E. Testing Protocols, Standards for Conducting Acceptable Tests, Guidance on Evaluating and Reporting Data.

All studies required under this Notice must be conducted in accordance with test standards outlined in the Pesticide Assessment Guidelines, unless other protocol or standards are approved for use by the Agency in writing.

As noted herein, these EPA Guidelines, which are referenced in the Data Tables, are available from the National Technical Information Service (NTIS), Attn: Order Desk, 5285 Port Royal Road, Springfield, VA 22161 (tel: 703-487-4650).

Protocols approved by the Organization for Economic Cooperation and Development (OECD) are also acceptable if the OECD-recommended test standards conform to those specified in the Pesticide Data Requirements regulation (Part 158.70). Please note, however, that certain OECD standards (such as test duration, selection of test species, and degradate identification which are environmental fate requirements) are less restrictive than those in the EPA Assessment Guidelines listed above. When using the OECD protocols, they should be modified as appropriate so that the data generated by the study will satisfy the requirements of Part 158. Normally, the Agency will not extend deadlines for complying with data requirements when the studies were not conducted in accord with acceptable standards. The OECD protocols are available from OECD, 1750 Pennsylvania Avenue, N.W., Washington, D.C. 20006.

F. Procedures for requesting a change in testing protocol.

If you will generate the required data and plan to use test procedures which deviate from EPA's Pesticide Assessment Guidelines or the Reports of Expert Groups to the Chemicals Group, Organization for Economic Cooperation and Development (OECD) Chemicals Testing Programme, you must submit for EPA approval the protocols you propose to use.

You should submit your protocols before beginning testing, because the Agency will not ordinarily accept as sufficient studies using unapproved protocols. A request for protocol approval will not extend the timeframe for submission of the data, nor will extensions generally be given to conduct studies due to submittal of inappropriate protocols.

G. Procedures for requesting extensions of time.

If you think that you will need more time to generate the data than is allowed by EPA's schedule, you may submit a request for an extension of time. Any request for a time extension which is made as an initial response to a section 3(c)(2)(B) request notice must be submitted in writing to the Product Manager listed at the end of this section and must be made by the 90-day deadline for response. Once dates have been committed to and EPA has accepted these commitments, any subsequent requests for a time extension must be submitted in writing to the Office of Compliance Monitoring at the address given in Section IX.E.

EPA will view failure to request an extension before the data submission response deadline as a waiver of any future claim that there was insufficient time to submit the data. While EPA considers your request, you must strive to meet the deadline for submitting the data.

The extension request should state the reasons why you believe that an extension is necessary and the steps you have taken to meet the testing deadline. Time extensions normally will not be granted due to problems with laboratory capacity or adequacy of funding, since the Agency believes that with proper planning these can be overcome.

A request for an extension does not extend the timeframe for submission of the data. If EPA denies your request for a time extension and you do not submit the data as requested, EPA may begin proceedings to suspend the registrations of your products.

H. PR Notice 86-5 and Any Other Requirements Referenced or Included Within this Notice.

All data submitted in response to this Notice must comply with EPA requirements regarding the reporting of data, including the manner of reporting, the completeness of results, and the adequacy of any required supporting (or raw) data, including, but not limited to, requirements referenced or included in this Notice or contained in PR Notice 86-5 (issued July 29, 1986).

I. Existing stocks provision upon suspension or cancellation.

The Agency has determined that if a registration is suspended for failure to respond to a DCI request under FIFRA sec. 3(c)(2)(B), an existing stocks provision is not consistent with the Act. Accordingly, the Agency does not anticipate granting permission to sell or distribute existing stocks of suspended product except in rare circumstances. If you believe that your product will be suspended or cancelled and that an existing stocks provision should be granted, you have the burden of clearly demonstrating to EPA that granting such permission would be consistent with the Act. The following information must be included in any request for an existing stocks provision:

1. Explanation of why an existing stocks provision is necessary, including a statement of the quantity of existing stocks and your estimate of the time required for their sale or distribution; and

2. Demonstration that such a provision would be consistent with the provisions of FIFRA.

VII. REQUIREMENT FOR SUBMISSION OF PRODUCT-SPECIFIC DATA

Under its DCI authority, EPA has determined that certain product-specific data are required to maintain your registrations in effect. Product-specific data are derived from testing using a specific formulated product, and, unlike generic data, generally support only the registration of that product. All such data must be submitted by the dates specified in this Registration Standard.

If you have a manufacturing use product, these data are listed in Table B. If you have an end use product, the data are listed in Table C. As noted earlier, the Agency has decided that it will not routinely require product-specific data for end use products at this time. Therefore, Table C may not be contained in this Registration Standard; if there is no Table C, you are not required to submit the data at this time.

In order to comply with the product specific data requirements, you must follow the same procedures as for generic data. See Section VI.D, E, F, and G. You should note, however, that product chemistry data are required for every product, and the only acceptable responses are options VI.D.1. (submit data) or VI.D.6.(cancellation of registration).

Failure to comply with the product-specific data requirements for your products will result in suspension of the product's registration.

VIII. REQUIREMENT FOR SUBMISSION OF REVISED LABELING

FIFRA requires each product to be labeled with accurate, complete and sufficient instructions and precautions, reflecting the Agency's assessment of the data supporting the product and its uses. General labeling requirements are set out in 40 CFR 162.10 (see Appendix II - LABELING and SUMMARY). In addition, labeling requirements specific to products containing this pesticide are specified in Section IV.D of this Registration Standard. Applications submitted in response to this notice must include draft labeling for Agency review.

If you fail to submit revised labeling as required, which complies with 40 CFR 162.10 and the specific instructions in Section IV.D., EPA may seek to cancel or suspend the registration of your product under FIFRA sec. 6.

IX. INSTRUCTIONS FOR SUBMISSION

A. Manufacturing Use Products (MUPs) containing the subject pesticide as sole active ingredient.

1. Within 90 days from receipt of this document, you must submit to the Product Manager in the Registration Division for each product subject to this Registration Standard:

a. The "FIFRA Section 3(c)(2)(B) Summary Sheet" (EPA Form 8580-1), with appropriate attachments.[5]

b. Confidential Statement of Formula (EPA Form 8570-4).

c. Formulator's Exemption Statement (EPA Form 8570-27), if applicable.

d. Evidence of compliance with data compensation requirements of FIFRA sec. 3(c)(1)(D). Refer to 40 CFR 152.80-152.99.

---

[5] If on the Summary Sheet, you commit to develop the data, present arguments that a data requirement is not applicable or should be waived, or submit protocols or modified protocols for Agency review, you must submit a copy of the Summary Sheet (and any supporting information) to the Office of Compliance Monitoring, which will be monitoring the data generated in response to this notice. This submission is in addition to responding to the Product Manager, and should be submitted to the Office of Compliance Monitoring at the address given at the end of this section. (Actual studies are not to be submitted to the Office of Compliance Monitoring.)

2. Within 9 months from receipt of this document you must submit to the Product Manager:

a. Application for Pesticide Registration (EPA Form 8570-1).

b. Two copies of any required product-specific data (See Table B).

c. Three copies of draft labeling, including the container label and any associated supplemental labeling. Labeling should be either typewritten text on 8-1/2 x 11 inch paper or a mockup of the labeling suitable for storage in 8-1/2 x 11 files. The draft label must indicate the intended colors of the final label, clear indication of the front panel of the label, and the intended type sizes of the text.

d. Product Specific Data Report (EPA Form 8580-4).

3. Within the times set forth in Table A, you must submit to the Registration Division all generic data, unless you are eligible for the formulator's exemption. If for any reason any test is delayed or aborted so that the schedule cannot be met, immediately notify the Product Manager and the Office of Compliance Monitoring of the problem, the reasons for the problem, and your proposed course of action.

B. Manufacturing Use Products containing the subject pesticide in combination with other active ingredients.

1. Within 90 days from receipt of this document, you must submit to the Product Manager in the Registration Division:

a. FIFRA sec. 3(c)(2)(B) Summary Sheet, with appropriate attachments[5] (EPA Form 8580-1).

b. Confidential Statement of Formula (EPA Form 8570-4)

c. Formulator's Exemption Statement (EPA Form 8570-27), if applicable.

2. Within 9 months of receipt of this document, you must submit to the Product Manager:

Three copies of draft labeling, including the container label and any associated supplemental labeling. Labeling should be either typewritten text on 8-1/2 x 11 inch paper or a mockup of the labeling suitable for storage in 8-1/2 x 11 files. The draft label must indicate the intended colors of the final label, clear indication of the front panel of the label, and the intended type sizes of the text.

3. Within the time frames set forth in Table A, you must submit to the Registration Division all generic data, unless you are eligible for the formulator's exemption. If for any reason any test is delayed or aborted so that the schedule cannot be met, immediately notify the Product Manager and the Office of Compliance Monitoring of the problem, the reasons for the problem, and your proposed course of action.

C. End Use Products containing the subject pesticide as sole active ingredient.

1. Within 90 days from receipt of this document, you must submit to the Product Manager in the Registration Division:

a. FIFRA Section 3(c)(2)(B) Summary Sheet, with appropriate attachments[5] (EPA Form 8580-1).

b. Confidential Statement of Formula (EPA Form 8570-4).

c. Formulator's Exemption Statement (EPA Form 8570-27), if applicable.

2. Within 9 months from receipt of this document you must submit to the Product Manager:

a. Two copies of any product-specific data, if required by Table C.

b. Product Specific Data Report (EPA Form 8580-4), if Table C lists required product-specific data.

c. Three copies of draft labeling, including the container label and any associated supplemental labeling. Labeling should be either typewritten text on 8-1/2 x 11 inch paper or a mockup of the labeling suitable for storage in 8-1/2 x 11 files. The draft labeling must indicate the intended colors of the final label, clear indication of the front panel of the label, and the intended type sizes of the text. End use product labeling must comply specifically with the instructions in Section IV (Regulatory Position and Rationale).

D. End Use Products containing the subject active ingredient as one of multiple active ingredients

Within 9 months from the receipt of this document, you must submit to the Product Manager:

Three copies of draft labeling, including the container label and any associated supplemental labeling. Labeling should be either typewritten text on 8-1/2 x 11 inch paper or a mockup of the labeling suitable for storage in 8-1/2 x 11 files. The draft labeling must indicate the intended colors of the final label, clear indication of the front panel of the label, and the intended type sizes of the text. End use product labeling must comply specifically with the instructions in Section IV (Regulatory Position and Rationale).

E. Intrastate Products containing the subject pesticide either as sole active ingredient or in combination with other active ingredients.

These products are being called in for full Federal registration. Producers of these products are being sent a letter instructing them how to submit an application for registration.

F. Addresses

The required information must be submitted to the following address:

Robert J. Taylor, PM 25
Registration Division (TS-767C)
Office of Pesticide Programs
Environmental Protection Agency
401 M St., SW
Washington, D.C. 20460

The address for submissions to the Office of Compliance Monitoring is:

Laboratory Data Integrity Assurance Division
Office of Compliance Monitoring (EN-342)
Environmental Protection Agency
401 M St., SW
Washington, D.C. 20460.

APPENDIX I

DATA TABLES

TGUIDE-1

GUIDE TO TABLES

Tables A, B, and C contain listings of data requirements for the pesticides covered by this Registration Standard.

Table A contains generic data requirements that apply to the pesticide in all products, including data requirements for which a "typical formulation" is the test substance.

Table B contains product-specific data requirements that apply only to a manufacturing use product.

Table C contains product-specific data requirements that apply only to an end use product.

The data tables are generally organized according to the following format:

1. Data Requirement (Column 1). The data requirements are listed in the order in which they appear in 40 CFR Part 158. The reference numbers accompanying each test refer to the test protocols set out in the Pesticide Assessment Guidelines, which are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

2. Test Substance (Column 2). This column lists the composition of the test substance required to be used for the test, as follows:

TGAI = Technical grade of the active ingredient
PAI = Pure active ingredient
PAIRA = Pure active ingredient, radio labeled
TEP = Typical end use formulation
MP = Manufacturing use product
EP = End use product

Any other test substances, such as metabolites, will be specifically named in Column 2 or in footnotes to the table.

3. Use pattern (Column 3). This column indicates the use patterns to which the data requirement applies. Use patterns are the same as those given in 40 CFR Part 158. The following letter designations are used for the given use patterns:

A = Terrestrial, food
B = Terrestrial, non-food
C = Aquatic, food
D = Aquatic, non-food
E = Greenhouse, food
F = Greenhouse, non-food
G = Forestry
H = Domestic outdoor
I = Indoor

Any other designations will be defined in a footnote to the table.

4. Does EPA have data? (Column 4). This column indicates one of three answers:

YES - EPA has data in its files that satisfy this data requirement. These data may be cited by other registrants in accordance with data compensation requirements of Part 152, Subpart E.

PARTIALLY - EPA has some data in its files, but such data do not fully satisfy the data requirement. In some cases, the Agency may possess data on one of two required species, or may possess data on one test substance but not all. The term may also indicate that the data available to EPA are incomplete. In this case, when the data are clarified, or additional details of the testing submitted by the original data submitter, the data may be determined to be acceptable. If this is the case, a footnote to the table will usually say so.

NO - EPA either possesses no data which are sufficient to fulfill the data requirement, or the data which EPA does possess are flawed scientifically in a manner that cannot be remedied by clarification or additional information.

5. Bibliographic citation (Column 5). If the Agency has acceptable data in its files, this column lists the identifying number of each study. This normally is the Master Record Identification (MRID) number, but may be a GS number if no MRID number has been assigned. Refer to the Bibliography Appendices for a complete citation of the study.

6. Must additional data be submitted? (Column 6). This column indicates whether the data must be submitted to the Agency. If column 3 indicates that the Agency already has data, this column will usually indicate NO. If column 3 indicates that the Agency has only partial data or no data, this column will usually indicate YES. In some cases, even though the Agency does not have the data, EPA will not require its submission because of the unique characteristics of the chemical; because data on another chemical can be used to fulfill the data requirement; or because the data requirement has been waived or reserved. Any such unusual situations will be explained in a footnote to the table.

7. Timeframe for submission (Column 7). If column 5 requires that data be submitted, this column indicates when the data are to be submitted, based on the issuance date of the Registration Standard. The timeframes are those established either as a result of a previous Data Call-In letter, or standardized timeframes established by PR Notice 85-5 (August 22, 1985).

8. Footnotes (at the end of each table). Self-explanatory.

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation 2/	Must Additional Data Be Submitted?	Timeframe for Submission1/
§158.120 Product Chemistry					
Product Identity and Composition					
61-2 - Description of Beginning Materials and Manufacturing Process	TGAI	No	N/A	Yes3/	6 Months
61-3 - Discussion of Formation of Impurities	TGAI	No	N/A	Yes4/	6 Months
Analysis and Certification of Product Ingredients					
62-1 - Preliminary Analysis of Product Samples	TGAI	No	N/A	Yes5/	12 Months
Physical and Chemical Characteristics					
63-2 - Color	TGAI	No	N/A	Yes6/	6 Months
63-3 - Physical State	TGAI	No	N/A	Yes6/	6 Months
63-4 - Odor	TGAI	No	N/A	Yes6/	6 Months
63-5 - Melting Point	TGAI	No	N/A	Yes6/, 7/	6 Months
63-6 - Boiling Point	TGAI	No	N/A	Yes6/, 8/	6 Months

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation [2]	Must Additional Data Be Submitted?	Timeframe for Submission[1]
§158.120 Product Chemistry (continued)					
63-7 - Density, Bulk Density, or Specific Gravity	TGAI	No	N/A	Yes[6]	6 Months
63-8 - Solubility	TGAI or PAI	No	N/A	Yes[6]	6 Months
63-9 - Vapor Pressure	TGAI or PAI	No	N/A	Yes[6]	6 Months
63-10 - Dissociation Constant	TGAI or PAI	No	N/A	Yes[6]	6 Months
63-11 - Octanol/Water Partition Coefficient	PAI	No	N/A	Yes[6],[9]	6 Months
63-12 - pH	TGAI	No	N/A	Yes[6],[10]	6 Months
63-13 - Stability	TGAI	No	N/A	Yes[6]	6 Months
Other Requirements:					
64-1 - Submittal of Samples	N/A	N/A	N/A	N/A	

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

---

§158.120 Product Chemistry Footnotes

1/ Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

2/ Not applicable. Although product chemistry data may have been submitted in the past, the Agency has determined that these data must be resubmitted for each pesticide. New requirements have been introduced and previously submitted data must be updated. Therefore, bibliographic citations for the old data are not applicable.

3/ Complete information must be provided regarding the nature of the process (batch or continuous), the relative amounts of the beginning materials and the order in which they are added, the chemical equations for each intended reaction, equipment used to produce each intermediate and final product, reaction conditions, the duration of each step of the process, purification procedures, and quality control measures. In addition, the name and address of the manufacturer, producer, or supplier of each beginning material must be provided, along with information regarding the properties of each beginning material used to manufacture each product.

4/ A detailed discussion of all impurities that are or may be present at $\geq$ 0.1%, based on knowledge of the beginning materials, chemical reactions (intended and side) in the manufacturing process, and any contamination during and after production must be submitted.

5/ Five or more representative samples must be analyzed for the amount of active ingredient and each impurity for which a certified limit is required. Complete validation data (accuracy, precision) must be submitted for each analytical method used.

6/ Physicochemical characteristics (color, physical state, odor, melting point, boiling point, specific gravity, solubility, vapor pressure, dissociation constant, K_{ow}, pH, and stability) as required in 40 CFR 158.120 and more fully described in the Pesticide Assessment Guidelines, Subdivision D must be submitted.

7/ Data needed if the technical chemical is a solid at room temperature.

8/ Data needed if the technical chemical is a liquid at room temperature.

9/ Required if the technical chemical is organic and nonpolar.

10/ Required if the test substance is dispersible with water.

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.125 Residue Chemistry					
171-2 - Chemical Identity[2]/				Yes[2]/	6 Months
171-3 - Directions for Use		(See product labels)		Yes[3]/	6 Months
171-4 - Nature of Residue (Metabolism)					
- Plants	PAIRA	Partially	00035475,00035480 00035485,00035488 00035489,00035490 00035496,00035497 00035498,00035505 00036377,00036394 00036395,00036628 00036629,00036630 00036632,00036635 00036638,00036639 00036640,00036644 00037860,00037861 00037866,00037881 00114715,00114794 00139860,40378101 40378102	Yes[4]/	18 Months
- Livestock	PAIRA	Partially	00114700, 00114701, 00114739.	Yes[5]/	18 Months

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.125 Residue Chemistry (continued)					
171-4 - Residue Analytical Method					
- Plant Residues - Animal Residues	TGAI and Metabolites	Partially	00035896,00036385, 00036626,00036636, 00036637,00036641, 00037032,00037033, 00037034,00037037, 00037046,00037863, 00039946,00045294, 00045295,00051807, 00051812,00051814, 00051822,00051824, 00051834,00051838, 00051845,00051856, 00051861,00083334, 00106293,00114710, 00114715,00114717, 00114718,00114739, 00114740,00114741, 00114743,00114751, 00114785,00114794, 00115388,05016141,	Yes[6]/ Reserved[7]/	15 Months
171-4 - Storage Stability Data	PAI or TEP Metabolites	Partially	00037031,00054672	Yes[8]/[9]/ Reserved[10]/	18 Months

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.125 Residue Chemistry (continued)					
171-4 - Magnitude of the Residue - Crop Field Trials					
- Root and Tuber Vegetable Group					
o Carrots	TEP	Partially	00114725,00115388	Yes[11]/	18 Months
o Potatoes	TEP	Partially	00083155,00114695 00114718,00114741, 00114747,00114750, 00114777,00114785, 00114795.	Yes[12]/,[39]/ Yes[13]/,[39]/	18 Months 24 Months
o Sugar Beet Roots	TEP	Partially	00051824,00114725, 00114794,00115388.	Yes[14]/ Yes[15]/	18 Months 24 Months
- Leaves of Root and Tuber Vegetables Group					
o Sugar Beet Tops	TEP	Partially	00051824,00114794, 00115388.	Yes[16]/	18 Months
- Bulb Vegetables Group					
o Garlic	TEP	Partially	00051834,00114725.	Yes[17]/	18 Months

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.125 Residue Chemistry (continued)					
171-4 - Magnitude of the Residue - Crop Field Trials (cont'd)					
o Onions	TEP	Partially	00083158,00114725, 00115388.	Yes[18]/,39/	18 Months
- Leafy Vegetables Group					
o Spinach	TEP	Partially	00114710,00114715, 00114794.	Yes[19]/	18 Months
- Legume Vegetables Group					
o Beans (Succulent and Dried)	TEP	Partially	00051812,00051822, 00114715,00115388.	Yes[20]/ Yes[21]/	18 Months 18 Months
o Soybeans	TEP	Partially	00030995,00036382, 00036642,00037035, 00037037,00037038, 00037042,00037043, 00037045,00051815, 00051817,00106293, 00114715,00114717, 00114778,	Yes[22]/,39/	24 Months

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.125 Residue Chemistry (continued)					
171-4 - Magnitude of the Residue - Crop Field Trials (cont'd)					
- Fruiting Vegetables Group					
o Tomatoes	TEP	Partially	00114710,00114725, 00051838.	Yes[23]/ Yes[24]/	18 Months 24 Months
- Small Fruits and Berries Group					
o Blackberries	TEP	Partially	00051807	Yes[25]/	18 Months
o Blueberries	TEP	Partially	00114710	Yes[26]/	18 Months
o Cranberries	TEP	Partially	00051861,00114715, 00114725,00114737, 00114748.	Yes[27]/	18 Months
o Raspberries	TEP	Partially	00114710	Yes[28]/	18 Months

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.125 Residue Chemistry (continued)					
171-4 - Magnitude of the Residue - Crop Field Trials (cont'd)					
- Grass Forage, Fodder, and Hay Group					
o Grass Forage and Hay	TEP	Partially	00114715,00114794, 00114737.	Yes[29]/ Yes[30]/	18 Months 18 Months
- Nongrass Animal Feeds Group					
o Alfalfa Forage and Hay	TEP	Partially	00051851,00051852, 00051853,00051854, 00051855,00114710, 00114725,00114737, 00114794.	Yes[31]/,[39]/	18 Months
o Birdsfoot Trefoil Forage and Hay	TEP	No		Yes[32]/	18 Months
o Clover Forage and Hay	TEP	Partially	00036390,00036392, 00037285,00058143, 00058147,00114725, 00114737.	Yes[33]/	18 Months

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.125 Residue Chemistry (continued)					
171-4 - Magnitude of the Residue - Crop Field Trials (cont'd)					
- Miscellaneous Commodities					
o Safflower Seed	TEP	Partially	00114710,00114715 00114725.	Yes[34]/,[39]/ Yes[35]/,[39]/	18 Months 24 Months
- Tobacco		Yes	00094865,00094866 00094867	No	
171-4 - Magnitude of the Residue in Meat/Milk/Poultry/Eggs					
- Fat, Meat, and Meat Byproducts of Poultry, Cattle, Goats, Hogs, Horses, and Sheep, Eggs, and Milk		Partially	00037029,00054669	Reserved[36]/	
171-4 - Magnitude of the Residue in Drinking and Irrigation Water		No		Yes[37]/	15 Months
171-4 - Nature and Magnitude of the Residue in Fish and Shellfish		Partially	00035995,00035998	Reserved[38]/	

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

---

§158.125 Residue Chemistry Footnotes

1/ Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

2/ Refer to Product Chemistry Data Requirement tables.

3/ Refer to footnotes 14, 21, and 23 for details of required product label amendments.

4/ Data must be submitted depicting the uptake, distribution, and metabolism of ring-labeled [^{14}C]chlorpropham in stored potatoes following postharvest application at a rate sufficiently high to permit complete ^{14}C-residue characterization. Representative samples from the required metabolism studies must also be analyzed using accepted enforcement methods to ascertain that these methods will determine all possible metabolites of concern including any bound/ conjugated residues of concern.

5/ Metabolism studies must be submitted utilizing ruminants and poultry. Animals must be dosed for a minimum of 3 days with ring-labeled [^{14}C]chlorpropham at a level sufficient to make identification and quantification of residues possible. Milk and eggs must be collected for analysis twice daily during the dosing period, and animals must be sacrificed within 24 hours after administration of the final dose. The distribution and identity of residues must be determined in milk, liver, kidney, muscle, and fat of ruminants, and in eggs, liver, kidney, muscle, and fat of poultry. Samples from the requested animal metabolism studies must also be analyzed using current enforcement methods to determine the usefulness of these methods for analysis of animal commodities. The enforcement method must be capable of determining all free and bound/conjugated residues of concern.

6/ Chlorpropham per se must be subjected to Multiresidue Protocols II, III, and IV and isopropyl-OH-CIPC must be subjected to analysis by Multiresidue Protocols I-IV available from National Technical Information Service under order No. PB 203734/AS. The registrant must select the specific method(s) recommended for tolerance enforcement. The method must include a hydrolysis step at the tissue stage to release bound/conjugated residues. Spiking may not produce conjugates. Therefore, enforcement methods must be tested in conjunction with plant and animal metabolism studies. The efficiency of extraction of bound/conjugated residues of concern must be determined for any or all residue data collection methods the registrant has used or will use to support tolerances. Residues must be "weathered" and not simply spiked into samples prior to analysis. This may best be conducted in conjunction with plant and animal metabolism studies involving radiolabeled material. This is required because conjugates are expected to occur with both soluble and insoluble plant constituents. Such a

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

---

§158.125 Residue Chemistry Footnotes (cont'd)

hydrolysis step must be incorporated into all methods to be used for data collection in support of tolerances. The method(s) selected for 3-chloroaniline analysis must be validated by submission of data relating to specificity, sensitivity, precision, and accuracy; one approach may be to spike radiolabeled 3-chloroaniline prior to extraction and hydrolysis if one of the existing methods for chlorpropham analysis is used.

7/ If the requested data regarding the nature of the residues in plants and animals reveal the occurrence of additional metabolites of concern, additional analytical methods for data collection and enforcement is reserved pending results.

8/ The storage intervals and conditions of samples used to support all established tolerances for residues of chlorpropham must be submitted. These data must be accompanied by data depicting the percent decline in residues of chlorpropham for all plant samples stored frozen for periods longer than 21 months. Data for animal tissues and milk are also needed. On receipt of these data, the adequacy of the aforementioned tolerances will be reevaluated. In laboratory tests using fortified samples, the pure active ingredient and pure metabolite must be used. However, if field-weathered samples are used, the test substance must be a typical end-use product.

9/ All residue data requested in this Standard must be accompanied by data regarding storage length and conditions of sample storage. The data must also be submitted depicting the stability of residues of chlorpropham (including 3-chloroaniline) under the conditions and for the time intervals specified, if different than those discussed in footnote 8. In laboratory tests using fortified samples, the pure active ingredient and pure metabolites must be used. However, if field-weathered samples are used, the test substance must be a typical end-use product.

10/ If the requested metabolism data indicate the presence of additional residues of toxicological concern in plant and animal commodities, data depicting stability of such residues in storage will be required.

11/ Data depicting chlorpropham residues of concern in or on mature carrots harvested ca. 65 days following a single preemergence application of the 20% G or 4 lb/gal EC formulation at 6 lb ai/A. Tests must be conducted in TX (19%), WA (17%), and either MI (19%) or WI (17%); numbers in parentheses are percentages of carrot production outside of CA. Such data is necessary for establishment of a permanent tolerance for chlorpropham residues of concern in or on carrots.

---

§158.125 Residue Chemistry Footnotes (cont'd)

12/ Data depicting chlorpropham residues of concern (including 3-chloroaniline) in potatoes analyzed immediately after treatment in commercial storage with, in separate tests, an RTU formulation at 0.033 lb ai/1000 lb of potatoes applied as an aerosol through forced air circulation systems, and an EC formulation at 0.027 lb ai/1000 lb of potatoes applied as a dilute aqueous spray to potatoes moved along a conveyer belt. Samples from each test must be taken from several positions in the storage pile.

13/ A processing study depicting chlorpropham residues of concern (including 3-chloroaniline) in potato granules, potato chips, and potato peels (wet and dried) processed from raw tubers bearing measurable, weathered residues. If residues concentrate in any of these processed commodities, the registrants must propose appropriate food/feed additive tolerances.

14/ Data depicting chlorpropham residues of concern in or on sugar beet roots harvested following postemergence application of the 4 lb/gal EC formulation at 4 lb ai/A by ground equipment and metered into irrigation water in separate tests. Tests must be conducted in the State of CA, the only State in which these uses are registered. The registrants must propose a PHI that is consistent with accepted cultural practices and the current use directions and limitations and is reflected by the requested data. The registrants must also propose an appropriate permanent tolerance for chlorpropham residues of concern in or on sugar beet roots.

15/ A processing study depicting chlorpropham residues of concern in dried pulp, molasses, and refined sugar processed from sugar beet roots bearing measurable, weathered residues of chlorpropham. If residues are shown to concentrate in any of these commodities, the registrants must propose appropriate food or feed additive tolerances.

16/ Data depicting chlorpropham residues of concern in or on sugar beet tops harvested following postemergence application of the 4 lb/gal EC formulation at 4 lb ai/A by ground equipment and metered into irrigation water, in separate tests. Tests must be conducted in the State of CA, the only State in which these uses are registered. The registrants must propose a PHI that is consistent with accepted cultural practices and the current use directions and limitations. The registrants must also propose an appropriate permanent tolerance for chlorpropham residues of concern in or on sugar beet tops.

17/ The registrants must propose an appropriate permanent tolerance for chlorpropham residues of concern in or on garlic.

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

---

§158.125 Residue Chemistry Footnotes (cont'd)

18/ Data depicting residues of chlorpropham (including 3-chloraniline) in or on onions (including green onions) harvested 30 days after the postemergence application of 8 lb ai/A. The 4 lb/gal EC and 20% G formulations must both be represented in the data submitted. Tests must be conducted in the States of CA (27%), CO (13%), NM (4%)/TX (4%), OR (18%) and MI (8%) or NY (9%) representing ca. 90% of U.S. bulb onion production. Tests must be conducted in the states of CA (40%) and TX (49%) in the case of green onions. Such data is necessary for establishment of a permanent tolerance for chlorpropham residues of concern in or on onions.

19/ Data must be submitted depicting chlorpropham residues of concern in or on spinach harvested 30 days after postemergence application of the 4 lb/gal EC formulation at 2 lb ai/A at the six- to eight-leaf growth stage. Tests must be conducted in the States of AR, MD, OK, and VA where special local needs registrations are in effect. Such data is necessary for establishment of a permanent tolerance for chlorpropham residues of concern in or on spinach.

20/ Data must be submitted depicting chlorpropham residues of concern in or on succulent and dried beans harvested at maturity following a preemergence application with the 4 lb/gal EC formulation at 4 and 6 lb ai/A, respectively. Tests with succulent beans must be conducted in NY (13%), OR (18%), and WI (35%), and tests with dried beans must be conducted in CA (16%), CO (13%) or NE (12%), and MI (24%) or ND (14%). Such data is necessary for establishment of a permanent tolerance for chlorpropham residues in or on beans (dry and succulent).

21/ Since bean vines and bean hay are raw agricultural commodities, the registrant must propose tolerances for chlorpropham residues in or on bean vines and hay and submit appropriate supporting residue data. Alternatively, the registrants may propose amendments to the pertinent product labels that restrict feeding or grazing of treated bean vines and bean vine hay by livestock.

22/ Data must be submitted depicting the potential for concentration of chlorpropham residues of concern (including 3-chloroaniline) in meal, hulls, soapstock, crude oil, refined oil, and the resulting grain "dust" processed from soybean seeds bearing measurable, weathered residues. If the data indicate a potential for concentration of residues in any of these processed products, appropriate food/feed additive tolerances must be proposed.

23/ Data must be submitted depicting chlorpropham residues of concern in or on tomatoes harvested at regular intervals after application according to the following treatment regimes with the 4 lb/gal EC formulation: (i) a single preplant broadcast application in FL at 4 lb ai/A; and (ii) a single preplant treatment followed

---

§158.125 Residue Chemistry Footnotes (cont'd)

by a single postemergence directed spray each at 4 lb ai/A in CA. Such data is necessary for establishment of a permanent tolerance for chlorpropham residues in or on tomatoes and propose an appropriate PHI.

24/ Data must be submitted depicting chlorpropham residues of concern in dry pomace, puree, catsup, and juice processed from tomatoes bearing measurable weathered residues. It may be necessary to use exaggerated rates to obtain measurable residues in or on the raw agricultural commodity. If residues concentrate in any of these processed products, appropriate food/feed additive tolerances must be proposed.

25/ The registrant must propose an appropriate permanent tolerance for chlorpropham residues in or on blackberries.

26/ Data must be submitted depicting chlorpropham residues of concern in or on blueberries following fall and spring application of the 20% G or 4 lb/gal EC formulations at 12 lb ai/A/application. Tests must be conducted in NJ (34%), MI (41%), and OR (3%)/WA (6%) representing ca. 80 percent of U.S. blueberry acreage. Such data is necessary for establishment of a permanent tolerance for chlorpropham residues in or on blueberries.

27/ The registrants must propose a permanent tolerance of 0.3 ppm for chlorpropham residues in or on cranberries.

28/ Data must be submitted depicting chlorpropham residues of concern in or on raspberries following early spring application of the 20% G or 4 lb/gal EC formulations at 6 lb ai/A. Tests must be conducted in OR (38%)/WA (44%), and MI (3%) representing ca. 90 percent of U.S. raspberry acreage. Such data is necessary for establishment of a permanent tolerance for chlorpropham residues in or on raspberries.

29/ The registrants must amend the federally-registered 4 lb/gal EC label and specify a dosage rate for this use. Appropriate supporting residue data must be submitted. Such data is necessary for establishment of a permanent tolerances for chlorpropham residues of concern in or on grass forage and grass hay.

30/ Data must be submitted depicting chlorpropham residues in or on Bermuda grass, bluegrass, and bromegrass or fescue (as hay mixed with alfalfa) harvested 40 days following a single postemergence broadcast soil application of the 4 lb/gal EC formulation at 3 lb ai/A. Tests must be conducted in KY. Alternatively, the registrant may elect to cancel this use permitted under EPA SLN No. KY-780006.

31/ Data must be submitted depicting chlorpropham residues (including 3-chloroaniline) in or on alfalfa and alfalfa hay harvested 20 days following postemergence application of (in separate tests) the 20% G and 4 lb/gal EC

§158.125 Residue Chemistry Footnotes (cont'd)

formulations at 6 lb ai/A. Ground application of the EC formulation must be made in 20 gal water/A and aerial applications must be made in 5 gal/A. Tests must be conducted in CA (8%) or OR (2%), IA (7%) or IL (4%), KS (5%) or NE (6%) or SD (2%), and MI (6%) or MN (7%) or WI (12%) which collectively produced ca. 60 percent of the total U.S. alfalfa crop in 1985 and represent the major U.S. alfalfa production regions. Such data is necessary for establishment of a permanent tolerances for chlorpropham residues of concern in or on alfalfa forage and alfalfa hay.

32/ The registrants must propose permanent tolerances for chlorpropham residues in or on birdsfoot trefoil forage and birdsfoot trefoil hay, and submit appropriate supporting residue data. The 4 lb/gal EC is to be applied postemergence at 4 lb ai/A in MI (46%) or WI (40%). Numbers in parentheses represent percentages of birdsfoot trefoil acreage. Residues must be determined in or on forage and field-dried hay.

33/ Data must be submitted depicting chlorpropham residues in or on clover hay harvested 40 days following a single postemergence application of the 20% G and 4 lb/gal EC formulations (in separate tests) at 4 lb ai/A. Tests must be conducted in CA which produced virtually all of the 1982 ladino clover crop, MN which produced 36 percent of the 1982 U.S. sweet clover crop and 10 percent of the U.S. red clover crop, and OR which produced 24 percent of 1982 red clover, 95 percent of U.S. crimson clover, and 84 percent of 1982 U.S. white clover. The registrants must propose appropriate tolerances for chlorpropham residues of concern in or on clover forage and clover hay.

34/ Data must be submitted depicting chlorpropham residues of concern (including 3-chloroaniline) in or on samples of safflower seed harvested at normal crop maturity following preplant incorporated application of the 4 lb/gal EC formulation at 6 lb ai/A. Tests must be conducted in the States of CA (57%) and NV (30%) representing ca. 90 percent of the 1982 U.S. safflower acreage. Such data is necessary for establishment of a permanent tolerance for chlorpropham residues in or on safflower seed.

35/ A processing study must be submitted depicting chlorpropham residues (including 3-chloroaniline) in safflower meal and oil processed from safflower seed bearing measurable, weathered residues. If concentration of residues occurs in either of these commodities during processing, the registrants must propose appropriate food/feed additive tolerances.

36/ Presently, the nature of the residue in animals is not adequatly understood. Upon receipt of the data requested

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

---

§158.125 Residue Chemistry Footnotes (cont'd)

in the section "Nature of the Residue in Animals," the need for, and the nature of tolerances for chlorpropham residues in livestock will be assessed.

37/ Data must be submitted depicting the nature and magnitude of chlorpropham residues in potable water following the registered treatment of cranberries. Degradation products in water must be identified and quantified. Should detectable residues of concern occur in water then the registrants must propose an Acceptable Residue Level in Drinking Water (ARLDW) and a tolerance for residues from irrigation water in all crops, or propose label amendments restricting the exposure to drinking or irrigation water.

38/ The nature and magnitude of residues of chlorpropham in water resulting from aquatic use have not been identified. If detectable residues of concern are found in water (refer to footnote 37), then additional residue data for fish may be required.

39/ A metabolite/degradate of chlorpropham, 3-chloroaniline, is a probable mutagen. This compound was found to be a plant residue in a published metabolism study (James and Prendeville. 1969. J. Agric. Food Chem. 17(6):1257). To ascertain the magnitude of its presence in plant commodities and their processed products, residue data are required for the following representative commodities and any processed products: alfalfa, potatoes, onions, safflower seed, and soybeans. If 3-chloroaniline is detected in any of these RACs or their processed products, residue data on 3-chloroaniline will be required for all registered crops and their processed products. Note that the method must specifically determine 3-chloroaniline present in the sample prior to any hydrolysis step associated with the analytical method used. Refer to footnotes 9, 12, 13, 18, 22, 31, 34 and 35 (above) for specific deficiencies regarding 3-chloroaniline.

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Use Patterns	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.135 Toxicology						
ACUTE TESTING:						
81-1 - Acute Oral Toxicity - Rat	TGAI	A,B	No		Yes	9 Months
81-2 - Acute Dermal Toxicity - Rabbit	TGAI	A,B	No		Yes	9 Months
81-3 - Acute Inhalation Toxicity - Rat	TGAI	A,B	No		Yes	9 Months
81-4 - Primary Eye Irritation	TGAI	A,B	No		Yes	9 Months
81-5 - Primary Dermal Irritation	TGAI	A,B	No		Yes	9 Months
81-6 - Dermal Sensitization	TGAI	A,B	No		Yes	9 Months
81-7 - Acute Delayed Neurotoxicity - Hen	TGAI	A,B	Yes	00093915	No[2]/	
SUBCHRONIC TESTING:						
82-1 - 90-Day Feeding						
- Rodent, and	TGAI	A,B	No		Yes[3]/	15 Months
- Nonrodent (Dog)	TGAI	A,B	No		Yes[3]/	18 Months
82-2 - 21-Day Dermal - Rabbit	TGAI	A,B	No		Yes	12 Months

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Use Patterns	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.135 Toxicology (continued)						
82-3 - 90-Day Dermal - Rabbit	TGAI	A,B	No		No[4]/	
82-4 - 90-Day Inhalation - Rat	TGAI	A,B	No		No[5]/	
82-5 - 90-Day Neurotoxicity - Hen/Mammal	TGAI	A,B	No		No[6]/	
82-X - Smoke Inhalation	TGAI	B	Partially	00126737	Yes[7]/	15 Months
CHRONIC TESTING:						
83-1 - Chronic Toxicity - 2 Species:						
- Rodent, and	TGAI	A,B	No		Yes	50 Months
- Nonrodent (Dog)	TGAI	A,B	No		Yes	50 Months
83-2 - Oncogenicity 2 Species:						
- Rat (Preferred), and	TGAI	A,B	No		Yes	50 Months
- Mouse (Preferred)	TGAI	A,B	No		Yes	50 Months
83-3 - Teratogenicity 2 Species:						
- Rat	TGAI	A,B	Yes	00093921	No	
- Rabbit	TGAI	A,B	Yes	00129940	No	

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Use Patterns	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.135 Toxicology (continued)						
83-4 - Reproduction - Rat 2-Generation	TGAI	A,B	Yes	00129545	No	
MUTAGENICITY TESTING						
84-2 - Gene Mutation (Ames Test)	TGAI	A,B	Yes	00129938	No	
84-2 - Structural Chromosomal Aberration	TGAI	A,B	No		Yes	12 Months
84-2 - Other Mechanisms of Mutagenicity	TGAI	A,B	No		Yes	12 Months
SPECIAL TESTING						
85-1 - General Metabolism	PAI or PAIRA	A,B	No		Yes	24 Months
85-2 - Dermal Absorption	Choice	A,B	No		No[8]/	
86-1 - Domestic Animal Safety	Choice	A,B	No		No[8]/	
- Additional Test Data	Choice	A,B	No		No[9]/,[10]/	

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

---

§158.135 Toxicology Footnotes

1/ Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (See front cover for this date).

2/ The test is required only for organophosphates, metabolites, or other potential inhibitors of cholinesterase. Chlorpropham does not fit these criteria; therefore, a study is not required.

3/ This requirement is waived based on submission of an acceptable chronic feeding study in the rat/dog.

4/ This study is not required because existing acceptable end uses should not result in repeated human skin contact.

5/ This study is not required because existing acceptable end uses should not result in repeated human inhalation exposure.

6/ Since an acute neurotoxicity study is not required for this compound, and there is not evidence of neurotoxicity in mammalian species, this study is not required.

7/ The requirements for smoke inhalation studies are included under "Special Testing" in these tables.

8/ No data are required under current use patterns.

9/ If residues on tobacco greater than 0.1 ppm are detected, then an additional smoke inhalation study will be required. However, since formal guidelines for such a study have not been developed, the registrant should consult with the Agency before performing the study.

10/ If the required metabolism studies indicate that p-methoxy-chlorpropham (a metabolite of chlorpropham in potatoes) is not a metabolite in chlorpropham-dosed rats, then Guideline studies 81-1 (rat), 82-1 (rat only), 83-3 (rat only), and 84-2 may be required on p-methoxy-chlorpropham. However, toxicity studies on p-methoxy-chlorpropham are not required at this time.

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Use Patterns	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.130 Environmental Fate						
DEGRADATION STUDIES-LAB:						
161-1 - Hydrolysis	PAIRA	A,B	Yes	00114729	No	
Photodegradation						
161-2 - In Water	PAIRA	A,B	No		Yes	9 Months
161-3 - On Soil	PAIRA	A,B	No		Yes	9 Months
161-4 - In Air	PAIRA	---	--		No[2]/	
METABOLISM STUDIES-LAB:						
162-1 - Aerobic Soil	PAIRA	A,B	No		Yes	27 Months
162-2 - Anaerobic Soil	PAIRA	A,B	No		Yes	27 Months
162-3 - Anaerobic Aquatic	PAIRA	---	--		No[3]/	
163-4 - Aerobic Aquatic	PAIRA	---	--		Reserved[4]/	
MOBILITY STUDIES:						
163-1 - Leaching and Adsorption/ Desorption	PAIRA	A,B	No		Yes	7 Months

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Use Patterns	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.130 Environmental Fate (continued)						
163-2 - Volatility (Lab)	TEP	A,B	No		Yes	12 Months
163-3 - Volatility (Field)	TEP	A,B	No		Reserved[5]/	
DISSIPATION STUDIES-FIELD:						
164-1 - Soil	TEP	A,B	No		Yes	27 Months
164-2 - Aquatic (Sediment)	TEP	---	--		No[3]/	
164-3 - Forestry	TEP	---	--		No[3]/	
164-5 - Soil, Long-Term	TEP	A,B	No		Reserved[6]/	50 Months
ACCUMULATION STUDIES:						
165-1 - Rotational Crops (Confined)	PAIRA	A	No		Yes	39 Months
165-2 - Rotational Crops (Field)	TEP	A	No		Reserved[7]/	50 Months
165-3 - Irrigated Crops	TEP	A	No		Yes[8]/	39 Months
165-4 - In Fish	PAIRA	A,B	Partially	00035997 00035998	Yes	12 Months
165-5 - In Aquatic Nontarget Organisms	TEP	A,B	No		Reserved[9]/	

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

---

§158.130 Environmental Fate Footnotes

1/ Data must be submitted within indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

2/ Data are not normally requested unless this chemical has a high vapor pressure ($>10^{-6}$ mmHg) and there are toxicological and rentry concerns.

3/ Data are not required for use pattern.

4/ Reserved pending evaluation of acceptable aerobic metabolism data (cranberry use).

5/ Reserved pending results of laboratory volatility data and review of toxicological and reentry issues.

6/ Reserved pending results of field dissipation study.

7/ Reserved pending results of confined rotational crop study.

8/ Data are required for the registered cranberry use.

9/ Reserved pending ecological issues and fish accumulation data.

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Use Patterns	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission 1/
§158.140 Reentry Protection						
132-1 - Foliar Dissipation	TEP		No		No 2/	
132-1 - Soil Dissipation	TEP		No		No 2/	
132-3 - Dermal Exposure	TEP		No		No 2/	
132-4 - Inhalation Exposure	TEP		No		No 2/	
§158.142 Spray Drift						
201-1 - Droplet Size Spectrum		A,B,	No		No 3/	
201-1 - Drift Field Evaluation		A,B,	No		No 3/	

1/ Data must be submitted within indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

2/ Toxicological data do not indicate a need for reentry data.

3/ No apparent issues have been raised with present registered uses to require spray drift data.

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Use Patterns	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.145 Wildlife and Aquatic Organisms						
SPECIAL TESTING						
70-1 - Residue Monitoring	TEP	A,B,C	No		Yes[2]/	9 Months
AVIAN AND MAMMALIAN TESTING						
71-1 - Acute Avian Oral Toxicity	TGAI	A,B,C	No		Yes	9 Months
71-2 - Avian Subacute Dietary						
- Upland Game Bird	TGAI	A,B,C	No		Yes	9 Months
- Waterfowl	TGAI	A,B,C	No		Yes	9 Months
71-3 - Wild Mammal Toxicity	TGAI	A,B,C	No		No	
71-4 - Avian reproduction						
- Upland Game Bird	TGAI	A,B,C	No		Reserved[3]/	
- Waterfowl	TGAI	A,B,C	No		Reserved[3]/	
71-5 - Simulated and Actual Field Testing						
- Mammals	TEP	A,B,C	No		Reserved[4]/	
- Birds	TEP	A,B,C	No		Reserved[4]/	
- Actual Field Testing						
- Mammals	TEP	A,B,C	No		Reserved[4]/	
- Birds	TEP	A,B,C	No		Reserved[4]/	

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Use Patterns	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.145 Wildlife and Aquatic Organisms (continued)						
AQUATIC ORGANISM TESTING						
72-1 - Freshwater Fish Toxicity - Coldwater Fish Species,	TGAI	A,B,C	Yes	40208604	No	
	TEP	A,B,C	No		Yes	9 Months
	Degradation Product	A,B,C	No		Reserved[5]/	
- Warmwater Fish Species	TGAI	A,B,C	Yes	40208603	No	
	TEP	A,B,C	No		Yes	9 Months
	Degradation Product	A,B,C	No		Reserved[5]/	
72-2 - Acute Toxicity to Freshwater Invertebrates	TGAI	A,B,C	No		Yes	9 Months
	TEP	A,B,C	No		Yes	9 Months
	Degradation Product	A,B,C	No		Reserved[5]/	
72-3 - Acute Toxicity to Estuarine and Marine Organisms - Fish	TGAI	A,B,C	No		Yes	12 Months
	TEP	A,B,C	No		Yes	12 Months
	Degradation Product	A,B,C	No		Reserved[5]/	

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Use Patterns	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.145 Wildlife and Aquatic Organisms (continued)						
72-3 - Acute Toxicity to Estuarine and Marine Organisms (cont'd)						
- Mollusk	TGAI	A,B,C	No		Yes	12 Months
	TEP	A,B,C	No		Yes	12 Months
	Degradation Product	A,B,C	No		Reserved[5]/	
- Shrimp	TGAI	A,B,C	No		Yes	12 Months
	TEP	A,B,C	No		Yes	12 Months
	Degradation Product	A,B,C	No		Reserved[5]/	
72-4 - Fish and Early Life Stage and Aquatic Invertebrate Life Cycle						
- Freshwater Species	TGAI	A,B,C	No		Yes	15 Months
	Degradation Product	A,B,C	No		Reserved[5]/	
- Estuarine/Marine Species	TGAI	A,B,C	No		Yes	15 Months
	Degradation Product	A,B,C	No		Reserved[5]/	
72-5 - Fish Life Cycle	TGAI	A,B,C	No		Yes	27 Months

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Use Patterns	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.145 Wildlife and Aquatic Organisms (continued)						
72-6 - Aquatic Organism Accumulation	TEP	A,B,C				
	Degradation Product	A,B,C				
- Crustacean			No		Reserved[6]/	
- Fish			No		Reserved[6]/	
- Insect Nymph			No		Reserved[6]/	
- Mollusk			No		Reserved[6]/	
- Shrimp			No		Reserved[6]/	
72-7 - Simulated Field Testing - Aquatic Organisms	TEP	A,B,C	No		Reserved[4]/	
- Actual Field Testing - Aquatic Organisms	TEP	A,B,C	No		Reserved[4]/	

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

---

§158.145 Wildlife and Aquatic Organisms Footnotes

1/ Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

2/ Residue monitoring must be conducted on terrestrial food crop, and aquatic crop use sites using the highest registered rates for each. The studies must be conducted on alfalfa, onion, blueberry, and cranberry crop sites. Terrestrial and aquatic monitoring must be conducted on each crop in locations where climatic conditions are favorable to the type of monitoring. A minimum of three terrestrial monitoring studies (five sites per crop) must be conducted on alfalfa, onions, and blueberries. A minimum of six aquatic residue monitoring studies (five sites per crop) must be conducted on alfalfa, cranberries and blueberries. Terrestrial site selection rationale must include agricultural areas where limited rainfall conditions favor the persistence of residues in terrestrial environments. Aquatic site selection rationale include be in those areas where rainfall conditions favor the movement of residues into aquatic environments in or near the test agricultural site. Alfalfa and cranberry sites must include residue monitoring from aerial applications where drift to adjacent terrestrial and aquatic environments can be monitored. Residue sampling parameters must include water, sediment, foliage, fish, insects, invertebrates, small mammals, birds, and pertinent feed and habitat items. Residue monitoring study protocols must be submitted within 90 days. Progress reports must be submitted at 6-month intervals.

3/ Avian reproduction studies are reserved pending the results of the avian acute toxicity, residue monitoring, and environmental fate studies.

4/ Field study requirements are reserved pending the results of acute avian oral, avian subacute dietary, freshwater fish toxicity, acute toxicity to freshwater invertebrates, acute toxicity to estuarine and marine organisms, avian reproduction, fish and early life stage and aquatic invertebrates, fish life cycle, residue monitoring, and environmental fate studies.

5/ Degradation studies are reserved pending the results of environmental fate studies.

6/ Aquatic organism accumulation studies are reserved pending the results of the environmental fate and residue monitoring studies.

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Use Patterns	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data be Submitted?	Timeframe for Submission[1]/
§158.150 Plant Protection						
121-1 - TARGET AREA PHYTOTOXICITY	EP	A,B,C	No		No[2]/	
NONTARGET AREA PHYTOTOXICITY						
TIER I						
121-1 - Seed Germination/ Seedling Emergence	TGAI	A,B,C	No		Yes	9 Months
122-1 - Vegetative Vigor	TGAI	A,B,C	No		Yes	9 Months
122-2 - Aquatic Plant Growth	TGAI	A,B,C	No		Yes	9 Months
TIER II						
123-1 - Seed Germination/ Seedling Emergency	TGAI	A,B,C	No		No[2]/	
123-1 - Vegetative Vigor	TGAI	A,B,C	No		No[2]/	
123-2 - Aquatic Plant Growth	TGAI	A,B,C	No		No[2]/	

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Use Patterns	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]
§158.150 Plant Protection (continued)						
TIER III						
124-1 - Terrestrial Field	TEP	A,B,C	No		No[2]	
124-2 - Aquatic Field	TEP	A,B,C	No		No[2]	

---

[1] Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

[2] These requirements are generally waived unless it is believed there is a phototoxicity problem.

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Use Pattern	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.155 Nontarget Insect						
NONTARGET INSECT TESTING - POLLINATORS:						
141-1 - Honey Bee Acute Contact Toxicity	TGAI	A,B,C,G	Yes	00018842	No	
141-2 - Honey Bee - Toxicity of Residues on Foliage	TEP	A,B,C,G	No		No[2]/	
141-4 - Honey Bee Subacute Feeding Study					Reserved[3]/	
141-5 - Field Testing for Pollinators	TEP	A,B,C,G	No		No[2]/	
NONTARGET INSECT TESTING - AQUATIC INSECTS:						
142-1 - Acute Toxicity to Aquatic Insects					Reserved[4]/	
142-2 - Aquatic Insect Life Cycle Study					Reserved[4]/	
142-3 - Simulated or Actual Field Testing for Aquatic Insects					Reserved[4]/	

TABLE A

GENERIC DATA REQUIREMENTS FOR CHLORPROPHAM

Data Requirement	Test Substance	Use Patterns	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.155 Nontarget Insect (continued)						
143-1 - NONTARGET INSECT thru TESTING - PREDATORS 143-3 - AND PARASITES					Reserved[4]/	

1/ Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

2/ As data from the acute contact test indicate low toxicity, no further testing is required.

3/ Reserved pending development of test methodology.

4/ Reserved pending Agency decision as to whether the data requirement should be established.

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING CHLORPROPHAM

Data Requirement	Test Substance	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation [2]/	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.120 Product Chemistry					
Product Identity and Composition					
61-1 - Product Identity and Disclosure of Ingredients	MP	No	N/A	Yes[3]/	6 Months
61-2 - Description of Beginning Materials and Manufacturing Process	MP	No	N/A	Yes[4]/	6 Months
61-3 - Discussion of Formation of Impurities	MP	No	N/A	Yes[5]/	6 Months
Analysis and Certification of Product Ingredients					
62-1 - Preliminary Analysis	MP	No	N/A	Yes[6]/	12 Months
62-2 - Certification of Limits	MP	No	N/A	Yes[7]/	12 Months
62-3 - Analytical Methods to Verify Certified Limits	MP	No	N/A	Yes[8]/	12 Months

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING CHLORPROPHAM

Data Requirement	Test Substance	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation [2]	Must Additional Data Be Submitted?	Timeframe for Submission[1]
§158.120 Product Chemistry (continued)					
Physical and Chemical Characteristics					
63-2 - Color	MP	No	N/A	Yes[9]	6 Months
63-3 - Physical State	MP	No	N/A	Yes[9]	6 Months
63-4 - Odor	MP	No	N/A	Yes[9]	6 Months
63-7 - Density, Bulk Density, or Specific Gravity	MP	No	N/A	Yes[9]	6 Months
63-12 - pH	MP	No	N/A	Yes[9], [10]	6 Months
63-14 - Oxidizing or Reducing Action	MP	No	N/A	Yes[9], [11]	6 Months
63-15 - Flammability	MP	No	N/A	Yes[9], [12]	6 Months
63-16 - Explodability	MP	No	N/A	Yes[9], [13]	6 Months
63-17 - Storage Stability	MP	No	N/A	Yes[9]	15 Months
63-18 - Viscosity	MP	No	N/A	Yes[9], [14]	6 Months
63-19 - Miscibility	MP	No	N/A	Yes[9], [15]	6 Months
63-20 - Corrosion Characteristics	MP	No	N/A	Yes[9]	15 Months

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING CHLORPROPHAM

Data Requirement	Test Substance	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation 2/	Must Additional Data Be Submitted?	Timeframe for Submission1/
§158.120 Product Chemistry (continued)					
Other Requirements:					
64-1 - Submittal of Samples	N/A	N/A	N/A	N/A	

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING CHLORPROPHAM

---

§158.120 Product Chemistry Footnotes

1/ Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

2/ Not applicable. Although product chemistry data may have been submitted in the past, the Agency has determined that these data must be resubmitted for each pesticide. New requirements have been introduced and previously submitted data must be updated. Therefore, bibliographic citations for the old data are not applicable.

3/ The chemical name and nominal concentration of each impurity for which a certified limit is required must be submitted. In addition, the chemical name, nominal concentration, Chemical Abstracts (CAS) Registry Number, and purpose of the active ingredient and each intentionally added inert must be provided. For the active ingredient, the following must also be provided: the product name, trade name, and common name; the molecular, structural, and empirical formulas; the molecular weight or weight range; and any experimental or internally assigned company code numbers.

4/ Complete information must be provided regarding the nature of the process (batch or continuous), the relative amounts of beginning materials and the order in which they are added, the chemical equations for each intended reaction, equipment used to produce each intermediate and final product, reaction conditions, the duration of each step of the process, purification procedures, and quality control measures. In addition, the name and address of the manufacturer, producer, or supplier of each beginning material must be provided, along with information regarding the properties of each beginning material used to manufacture each product.

5/ A detailed discussion of all impurities that are or may be present at $\geq$ 0.1%, based on knowledge of the beginning materials, chemical reactions (intended and side) in the manufacturing process, and any contamination during and after production must be submitted.

6/ Five or more representative samples must be analyzed for the amount of active ingredient and each impurity for which a certified limit is required. Complete validation data (accuracy, precision) must be submitted for each analytical method used.

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING CHLORPROPHAM

---

§158.120 Product Chemistry Footnotes (cont'd)

7/ Upper and lower limits for the active ingredient and each intentionally added inert, and upper limits for each impurity present at $\geq$ 0.1% (w/w) and each "toxicologically significant" impurity present at < 0.1% (w/w) must be provided, certified, and validated by sample analysis using analytical procedures for which accuracy and precision data have been provided. Limits for impurities not associated with the active ingredient need be provided only if they are considered to be of toxicological significance, regardless of the concentration at which they are present. Certifications must be submitted on EPA Form 8570 (Rev. 2-85).

8/ Analytical methods must be provided to determine the active ingredient, and each toxicologically significant impurity and intentionally added inert for which certified limits are required and each toxicologically significant impurity (unintentionally) added at $\geq$ 0.1%. Each method must be accompanied by validation studies indicating its accuracy and precision. These methods must be suitable for enforcement of certified limits.

9/ Physicochemical characteristics (color, physical state, odor, specific gravity, pH, oxidizing or reducing action, flammability, explodability, storage stability, viscosity, miscibility, and corrosion characteristics) as required in 40 CFR 158.120 and more fully described in the Pesticide Assessment Guidelines, Subdivision D must be submitted.

10/ Required if the test substance is dispersible with water.

11/ Required if the product contains an oxidizing or reducing agent.

12/ Required if the product contains combustible liquids.

13/ Required if the product is potentially explosive.

14/ Required if the product is a liquid.

15/ Required if the product is a liquid and is to be diluted with petroleum solvents.

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING CHLORPROPHAM

Data Requirement	Test Substance	Does EPA Have Data To Satisfy Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted?	Timeframe for Submission[1]/
§158.135 Toxicology					
ACUTE TESTING:					
81-1 - Acute Oral - Rat	MP	No		Yes	6 Months
81-2 - Acute Dermal	MP	No		Yes	6 Months
81-3 - Acute Inhalation	MP	No		Yes	6 Months
81-4 - Eye Irritation - Rabbit	MP	No		Yes	6 Months
81-5 - Dermal Irritation - Rabbit	MP	No		Yes	6 Months
81-6 - Dermal Sensitization - Guinea Pig	MP	No		Yes	6 Months

1/ Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

APPENDIX II

LABELING

SUMMARY-1

LABEL CONTENTS

40 CFR 162.10 requires that certain specific labeling statements appear at certain locations on the label. This is referred to as format labeling. Specific label items listed below are keyed to the table at the end of this Appendix.

Item 1. PRODUCT NAME - The name, brand or trademark is required to be located on the front panel, preferably centered in the upper part of the panel. The name of a product will not be accepted if it is false or misleading.

Item 2. COMPANY NAME AND ADDRESS - The name and address of the registrant or distributor is required on the label. The name and address should preferably be located at the bottom of the front panel or at the end of the label text.

Item 3. NET CONTENTS - A net contents statement is required on all labels or on the container of the pesticide. The preferred location is the bottom of the front panel immediately above the company name and address, or at the end of the label text. The net contents must be expressed in the largest suitable unit, e.g., "1 pound 10 ounces" rather than "26 ounces." In addition to English units, net contents may be expressed in metric units. [40 CFR 162.10(d)]

Item 4. EPA REGISTRATION NUMBER - The registration number assigned to the pesticide product must appear on the label, preceded by the phrase "EPA Registration No.," or "EPA Reg. No." The registration number must be set in type of a size and style similar to other print on that part of the label on which it appears and must run parallel to it. The registration number and the required identifying phrase must not appear in such a manner as to suggest or imply recommendation or endorsement of the product by the Agency. [40 CFR 162.10(e)]

Item 5. EPA ESTABLISHMENT NUMBER - The EPA establishment number, preceded by the phrase "EPA Est." is the final establishment at which the product was produced, and may appear in any suitable location on the label or immediate container. It must also appear on the wrapper or outside container of the package if the EPA establishment number on the immediate container cannot be clearly read through such wrapper or container. [40 CFR 162.10(f)]

Item 6A. INGREDIENTS STATEMENT - An ingredients statement is required on the front panel. The ingredients statement must contain the name and percentage by weight of each active ingredient and the total percentage by weight of all inert ingredients. The preferred location is immediately below the product name. The ingredients statement must run parallel with, and be clearly distinguished from, other text on the panel. It must not be placed in the body of other text. [40 CFR 162.10(g)]

Item 6B. POUNDS PER GALLON STATEMENT - For liquid agricultural formulations, the pounds per gallon of active ingredient must be indicated on the label.

Item 7. FRONT LABEL PRECAUTIONARY STATEMENTS - Front panel precautionary statements must be grouped together, preferably within a block outline. The table below shows the minimum type size requirements for various size labels.

Size of Label on Front Panel in Square Inches	Signal Word Minimum Type Size All Capitals	"Keep Out of Reach of Children" Minimum Type Size
5 and under	6 point	6 point
above 5 to 10	10 point	6 point
above 10 to 15	12 point	8 point
above 15 to 30	14 point	10 point
over 30	18 point	12 point

Item 7A. CHILD HAZARD WARNING STATEMENT - The statement "Keep Out of Reach of Children" must be located on the front panel above the signal word except where contact with children during distribution or use is unlikely. [40 CFR 162.10(h)(1)(ii)]

Item 7B. SIGNAL WORD - The signal word (DANGER, WARNING, or CAUTION) is required on the front panel immediately below the child hazard warning statement. [40 CFR 162.10 (h)(1)(i)]

Item 7C. SKULL & CROSSBONES AND WORD "POISON" - On products assigned a toxicity Category I on the basis of oral, dermal, or inhalation toxicity, the word "Poison" shall appear on the label in red on a background of distinctly contrasting color and the skull and crossbones shall appear in immediate proximity to the word POISON. [40 CFR 162.10(h)(1)(i)]

Item 7D. STATEMENT OF PRACTICAL TREATMENT - A statement of practical treatment (first aid or other) shall appear on the label of pesticide products in toxicity Categories I, II, and III. [40 CFR 162.10(h)(1)(iii)]

Item 7E. REFERRAL STATEMENT - The statement "See Side (or Back) Panel for Additional Precautionary Statements" is required on the front panel for all products, unless all required precautionary statements appear on the front panel. [40 CFR 162.10(h)(1)(iii)]

Item 8. SIDE/BACK PANEL PRECAUTIONARY LABELING - The precautionary statements listed below must appear together on the label under the heading "PRECAUTIONARY STATEMENTS." The preferred location is at the top of the side or back panel preceding the directions for use, and it is preferred that these statements be surrounded by a block outline. Each of the three hazard warning statements must be headed by the appropriate hazard title. [40 CFR 162.10(h)(2)].

Item 8A. HAZARD TO HUMANS AND DOMESTIC ANIMALS - Where a hazard exists to humans or domestic animals, precautionary statements are required indicating the particular hazard, the route(s) of exposure and the precautions to be taken to avoid accident, injury or damage. [40 CFR 162.10(h)(2)(i)]

Item 8B. ENVIRONMENTAL HAZARD - Where a hazard exists to non-target organisms excluding humans and domestic animals, precautionary statements are required stating the nature of the hazard and the appropriate precautions to avoid potential accident, injury, or damage. [40 CFR 162.10(h)(2)(ii)]

Item 8C. PHYSICAL OR CHEMICAL HAZARD - FLAMMABILITY Precautionary statements relating to flammability of a product are required to appear on the label if it meets the criteria in the PHYS/CHEM Labeling Appendix. The requirement is based on the results of the flashpoint determinations and flame extension tests required to be submitted for all products. These statements are to be located in the side/back panel precautionary statements section, preceded by the heading "Physical/Chemical Hazards." Note that no signal word is used in conjunction with the flammability statements.

Item 9A. RESTRICTED USE CLASSIFICATION - FIFRA sec. 3(d) requires that all pesticide formulations/uses be classified for either general or restricted use. Products classified for restricted use may be limited to use by certified applicators or persons under their direct supervision (or may be subject to other restrictions that may be imposed by regulation).

In the Registration Standard, the Agency has (1) indicated certain formulations/uses are to be restricted (Section IV indicates why the product has been classified for restricted use); or (2) reserved any classification decision until appropriate data are submitted.

The Regulatory Position and Rationale states whether products containing this active ingredient are classified for restricted use. If they are restricted the draft label(s) submitted to the Agency as part of your application must reflect this determination (see below).

If you do not believe that your product should be classified for restricted use, you must submit any information and rationale with your application for reregistration. During the Agency's review of your application, your proposed classification determination will be evaluated in accordance with the provisions of 40 CFR 162.11(c). You will be notified of the Agency's classification decision.

Item 10A. REENTRY STATEMENT - If a reentry interval has been established by the Agency, it must be included on the label. Additional worker protection statements may be required in accordance with PR Notice 83-2, March 29, 1983.

Item 10B. STORAGE AND DISPOSAL BLOCK - All labels are required to bear storage and disposal statements. These statements are developed for specific containers, sizes, and chemical content. These instructions must be grouped and appear under the heading "Storage and Disposal" in the directions for use. This heading must be set in the same type sizes as required for the child hazard warning. Refer to Appendix II, STOR, PEST/DIS, and CONT/DIS to determine the storage and disposal instructions appropriate for your products.

Item 10C. DIRECTIONS FOR USE - Directions for use must be stated in terms which can be easily read and understood by the average person likely to use or to supervise the use of the pesticide. When followed, directions must be adequate to protect the public from fraud and from personal injury and to prevent unreasonable adverse effects on the environment. [40 CFR 162.10]

COLLATERAL LABELING

Bulletins, leaflets, circulars, brochures, data sheets, flyers, or other written or graphic printed matter which is referred to on the label or which is to accompany the product are termed collateral labeling. Such labeling may not bear claims or representations that differ in substance from those accepted in connection with registration of the product. It should be made part of the response to this notice and submitted for review.

SUMMARY-6

LABELING REQUIREMENTS OF THE FIFRA, AS AMENDED

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
1	Product name	All products	Front panel	Center front panel	
2	Company name and address	All products	None	Bottom front panel or end of label text	If registrant is not the producer, must be qualified by "Packed for . . .," "Distributed by. . .," etc.
3	Net contents	All products	None	Bottom front panel or end of label text	May be in metric units in addition to U.S. units
4	EPA Reg. No.	All products	None	Front panel	Must be in similar type size and run parallel to other type.
5	EPA Est. No.	All products	None	Front panel, immediately before or following Reg. No.	May appear on the container instead of the label.
6A	Ingredients statement	All products	Front panel	Immediately following product name	Text must run parallel with other text on the panel.
6B	Pounds/gallon statement	Liquid products where dosage given as lbs. ai/unit area	Front panel	Directly below the main ingredients statement	
7	Front panel precautionary statements	All products	Front panel		All front panel precautionary statements must be grouped together, preferably blocked.
7A	Keep Out of Reach of Children (Child hazard warning)	All products	Front panel	Above signal word	Note type size requirements.
7B	Signal word	All products	Front panel	Immediately below child hazard warning	Note type size requirements.

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
7C	Skull & crossbones and word POISON (in red)	All products which are Category I based on oral, dermal, or inhalation toxicity	Front panel	Both in close proximity to signal word	
7D	Statement of Practical Treatment or First Aid	All products in Categories I, II, and III	Category I: Front panel unless referral statement is used. Others: Grouped with side panel precautionary statements.	Front panel for all.	
7E	Referral statement	All products where precautionary labeling appears on other than front panel.	Front panel		
8	Side/back panel precautionary statements	All products	None	Top or side of back panel preceding directions for use	Must be grouped under the headings in 8A, 8B, and 8C; preferably blocked.
8A	Hazards to humans and domestic animals	All products in Categories I, II, and III	None	Same as above	Must be preceded by appropriate signal word.
8B	Environmental hazards	All products	None	Same as above	Environmental hazards include bee caution where applicable.

SUMMARY-8

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
8C	Physical or chemical hazards	All pressurized products, others with flash points under 150°F	None	Same as above	Refer to Appendix II guide PHYS/CHEM
9A	Restricted block	All restricted products	Top center of front panel	Preferably blocked	Includes a statement of the terms of restriction. The words "RESTRICTED USE PESTICIDE" must be same type size as signal word.
9B	Misuse statement	All products	Immediately following heading of directions for use		Required statement is: "It is a violation of Federal law to use this product in a manner inconsistent with its labeling."
10A	Reentry statement	PR Notice 83-2 or as determined by the Agency	In the directions for use	Immediately after misuse statement	
10B	Storage and disposal block	All products	In the directions for use	Immediately before specific directions for use or at the end of directions for use	Must be set apart and clearly distinguishable from from other directions for use. Refer to Appendix II guides STOR, CONT/DIS, and PEST/DIS for further information and required statements.
10C	Directions for use	All products	None	None	May be in metric as well as U.S. units

§162.10 Labeling requirements.

(a) General--(1) Contents of the label. Every pesticide product shall bear a label containing the information specified by the Act and the regulations in this Part. The contents of a label must show clearly and prominently the following:

(i) The name, brand, or trademark under which the product is sold as prescribed in paragraph (b) of this section;

(ii) The name and address of the producer, registrant, or person for whom produced as prescribed in paragraph (c) of this section;

(iii) The net contents as prescribed in paragraph (d) of this section;

(iv) The product registration number as prescribed in paragraph (e) of this section;

(v) The producing establishment number as prescribed in paragraph (f) of this section;

(vi) An ingredient statement as prescribed in paragraph (g) of this section;

(vii) Warning or precautionary statements as prescribed in paragraph (h) of this section;

(viii) The directions for use as prescribed in paragraph (i) of this section; and

(ix) The use classification(s) as prescribed in paragraph (j) of this section.

(2) Prominence and legibility. (i) All words, statements, graphic representations, designs or other information required on the labeling by the Act or the regulations in this part must be clearly legible to a person with normal vision, and must be placed with such conspicuousness (as compared with other words, statements, designs, or graphic matter on the labeling) and expressed in such terms as to render it likely to be read and understood by the ordinary individual under customary conditions of purchase and use.

(ii) All required label text must:

(A) Be set in 6-point or larger type;

(B) Appear on a clear contrasting background; and

(C) Not be obscured or crowded.

(3) Language to be used. All required label or labeling text shall appear in the English language. However, the Agency may require or the applicant may propose additional text in other languages as is considered necessary to protect the public. When additional text in another language is necessary, all labeling requirements will be applied equally to both the English and other-language versions of the labeling.

(4) Placement of Label--(i) General. The label shall appear on or be securely attached to the immediate container of the

pesticide product. For purposes of this Section, and the misbranding provisions of the Act, "securely attached" shall mean that a label can reasonably be expected to remain affixed during the foreseeable conditions and period of use. If the immediate container is enclosed within a wrapper or outside container through which the label cannot be clearly read, the label must also be securely attached to such outside wrapper or container, if it is a part of the package as customarily distributed or sold.

(ii) Tank cars and other bulk containers--(A) Transportation. While a pesticide product is in transit, the appropriate provisions of 49 CFR Parts 170-189, concerning the transportation of hazardous materials, and specifically those provisions concerning the labeling, marking and placarding of hazardous materials and the vehicles carrying them, define the basic Federal requirements. In addition, when any registered pesticide product is transported in a tank car, tank truck or other mobile or portable bulk container, a copy of the accepted label must be attached to the shipping papers, and left with the consignee at the time of delivery.

(B) Storage. When pesticide products are stored in bulk containers, whether mobile or stationary, which remain in the custody of the user, a copy of the label of labeling, including all appropriate directions for use, shall be securely attached to the container in the immediate vicinity of the discharge control valve.

(5) False or misleading statements. Pursuant to section 2(q)(1)(A) of the Act, a pesticide or a device declared subject to the Act pursuant to § 162.15, is misbranded if its labeling is false or misleading in any particular including both pesticidal and non-pesticidal claims. Examples of statements or representations in the labeling which constitute misbranding include:

(i) A false or misleading statement concerning the composition of the product;

(ii) A false or misleading statement concerning the effectiveness of the product as a pesticide or device;

(iii) A false or misleading statement about the value of the product for purposes other than as a pesticide or device;

(iv) A false or misleading comparison with other pesticides or devices;

(v) Any statement directly or indirectly implying that the pesticide or device is recommended or endorsed by any agency of the Federal Government;

(vi) The name of a pesticide which contains two or more principal active ingredients if the name suggests one or more but not all such principal active ingredients even though the names of the other ingredients are stated elsewhere in the labeling;

(vii) A true statement used in such a way as to give a false or misleading impression to the purchaser;

(viii) Label disclaimers which negate or detract from labeling statements required under the Act and these regulations;

(ix) Claims as to the safety of the pesticide or its ingredients, including statements such as "safe," "nonpoisonous," "noninjurious," "harmless" or "nontoxic to humans and pets" with or without such a qualifying phrase as "when used as directed"; and

(x) Non-numerical and/or comparative statements on the safety of the product, including but not limited to:

(A) "Contains all natural ingredients";

(B) "Among the least toxic chemicals known"

(C) "Pollution approved"

(6) Final printed labeling. (i) Except as provided in paragraph (a)(6)(ii) of this section, final printed labeling must be submitted and accepted prior to registration. However, final printed labeling need not be submitted until draft label texts have been provisionally accepted by the Agency.

(ii) Clearly legible reproductions or photo reductions will be accepted for unusual labels such as those silk-screened directly onto glass or metal containers or large bag or drum labels. Such reproductions must be of microfilm reproduction quality.

(b) Name, brand, or trademark. (1) The name, brand, or trademark under which the pesticide product is sold shall appear on the front panel of the label.

(2) No name, brand, or trademark may appear on the label which:

(i) Is false or misleading, or

(ii) Has not been approved by the Administrator through registration or supplemental registration as an additional name pursuant to § 162.6(b)(4).

(c) Name and address of producer, registrant, or person for whom produced. An unqualified name and address given on the label shall be considered as the name and address of the producer. If the registrant's name appears on the label and the registrant is not the producer, or if the name of the person for whom the pesticide was produced appears on the label, it must be qualified by appropriate wording such as "Packed for ***," "Distributed by ***," or "Sold by ***" to show that the name is not that of the producer.

(d) Net weight or measure of contents. (1) The net weight or measure of content shall be exclusive of wrappers or other materials and shall be the average content unless explicitly stated as a minimum quantity.

(2) If the pesticide is a liquid, the net content statement shall be in terms of liquid measure at 68°F (20°C) and shall be expressed in conventional American units of fluid ounces, pints, quarts, and gallons.

(3) If the pesticide is solid or semisolid, viscous or pressurized, or is a mixture of liquid and solid, the net content statement shall be in terms of weight expressed as avoirdupois pounds and ounces.

(4) In all cases, net content shall be stated in terms of the largest suitable units, i.e., "1 pound 10 ounces" rather than "26 ounces."

(5) In addition to the required units specified, net content may be expressed in metric units.

(6) Variation above minimum content or around an average is permissible only to the extent that it represents deviation unavoidable in good manufacturing practice. Variation below a stated minimum is not permitted. In no case shall the average content of the packages in a shipment fall below the stated average content.

(e) Product registration number. The registration number assigned to the pesticide product at the time of registration shall appear on the label, preceded by the phrase "EPA Registration No.," or the phrase "EPA Reg. No." The registration number shall be set in type of a size and style similar to other print on that part of the label on which it appears and shall run parallel to it. The registration number and the required identifying phrase shall not appear in such a manner as to suggest or imply recommendation or endorsement of the product by the Agency.

(f) Producing establishments registration number. The producing establishment registration number preceded by the phrase "EPA Est.", of the final establishment at which the product was produced may appear in any suitable location on the label or immediate container. It must appear on the wrapper or outside container of the package if the EPA establishment registration number on the immediate container cannot be clearly read through such wrapper or container.

(g) Ingredient statement--(1) General. The label of each pesticide product must bear a statement which contains the name and percentage by weight of each active ingredient, the total percentage by weight of all inert ingredients; and if the pesticide contains arsenic in any form, a statement of the percentages of total and water-soluble arsenic calculated as elemental arsenic. The active ingredients must be designated by the term "active ingredients" and the inert ingredients by the term "inert ingredients," or the singular forms of these terms when appropriate. Both terms shall be in the same type size, be aligned to the same margin and be equally prominent. The statement "Inert Ingredients, none" is not required for pesticides which contain 100 percent active ingredients. Unless the ingredient statement is a complete analysis of the pesticide, the term "analysis" shall not be used as a heading for the ingredient statement.

(2) Position of ingredient statement. (i) The ingredient statement is normally required on the front panel of the label. If there is an outside container or wrapper through which the ingredient statement cannot be clearly read, the ingredient statement must also appear on such outside container or wrapper. If the size or form of the package makes it impracticable to place the ingredient statement on the front panel of the label, permission may be granted for the ingredient statement to appear elsewhere.

(ii) The text of the ingredient statement must run parallel with other text on the panel on which it appears, and must be clearly distinguishable from and must not be placed in the body of other text.

(3) Names to be used in ingredient statement. The name used for each ingredient shall be the accepted common name, if there is one, followed by the chemical name. The common name may be used alone only if it is well known. If no common name has been established, the chemical name alone shall be used. In no case will the use of a trademark or proprietary name be permitted unless such name has been accepted as a common name by the Administrator under the authority of Section 25(c)(6).

(4) Statements of percentages. The percentages of ingredients shall be stated in terms of weight-to-weignt. The sum of percentages of the active and the inert ingredients shall be 100. Percentages shall not be expressed by a range of values such as "22-25%." If the uses of the pesticide product are expressed as weight of active ingredient per unit area, a statement of the weight of active ingredient per unit volume of the pesticide formulation shall also appear in the ingredient statement.

(5) Accuracy of stated percentages. The percentages given shall be as precise as possible reflecting good manufacturing practice. If there may be unavoidable variation between manufacturing batches, the value stated for each active ingredient shall be the lowest percentage which may be present.

(6) Deterioration. Pesticides which change in chemical composition significantly must meet the following labeling requirements:

(i) In cases where it is determined that a pesticide formulation changes chemical composition significantly, the product must bear the following statement in a prominent position on the label: "Not for sale or use after [date]."

(ii) The product must meet all label claims up to the expiration time indicated on the label.

(7) Inert ingredients. The Administrator may require the name of any inert ingredient(s) to be listed in the ingredient statement if he determines that such ingredient(s) may pose a hazard to man or the environment.

(h) Warnings and precautionary statements. Required warnings and precautionary statements concerning the general areas of toxicological hazard including hazard to children, environmental hazard, and physical or chemical hazard fall into two groups; those required on the front panel of the labeling and those which may appear elsewhere. Specific requirements concerning content, placement, type size, and prominence are given below.

(1) Required front panel statements. With the exception of the child hazard warning statement, the text required on the front panel of the label is determined by the Toxicity Category of the pesticide. The category is assigned on the basis of the highest hazard shown by any of the indicators in the table below:

Hazard indicators	Toxicity categories			
	I	II	III	IV
Oral LD_{50}	Up to and including 50 mg/kg	From 50 thru 500 mg/kg	From 500 thru 5000 mg/kg	Greater than 5000 mg/kg
Inhalation LC_{50}	Up to and including .2 mg/liter	From .2 thru 2 mg/liter	From 2 thru 20 mg/liter	Greater than 20 mg/liter
Dermal LD_{50}	Up to and including 200 mg/kg	From 200 thru 2000	From 2,000 thru 20,000	Greater than 20,000
Eye effects	Corrosive; corneal opacity not reversible within 7 days	Corneal opacity reversible within 7 days; irritation persisting for 7 days	No corneal opacity; irritation reversible within 7 days	No irritation
Skin effects	Corrosive	Severe irritation at 72 hours	Moderate irritation at 72 hours	Mild or slight irritation at 72 hours

(i) Human hazard signal word.--(A) Toxicity Category I. All pesticide products meeting the criteria of Toxicity Category I shall bear on the front panel the signal word "Danger." In addition if the product was assigned to Toxicity Category I on the basis of its oral, inhalation or dermal toxicity (as distinct from skin and eye local effects) the word "Poison" shall appear in red on a background of distinctly contrasting color and the skull and crossbones shall appear in immediate proximity to the word "poison."

(B) Toxicity Category II. All pesticide products meeting the criteria of Toxicity Category II shall bear on the front panel the signal word "Warning."

(C) Toxicity Category III. All pesticide products meeting the criteria of Toxicity Category III shall bear on the front panel the signal word "Caution."

(D) Toxicity Category IV. All pesticide products meeting the criteria of Toxicity Category IV shall bear on the front panel the signal word "Caution."

(E) Use of signal words. Use of any signal word(s) associated with a higher Toxicity Category is not permitted except when the Agency determines that such labeling is necessary to prevent unreasonable adverse effects on man or the environment. In no case shall more than one human hazard signal word appear on the front panel of a label.

(ii) Child hazard warning. Every pesticide product label shall bear on the front panel the statement "keep out of reach of children." Only in cases where the likelihood of contact with children during distribution, marketing, storage or use is demonstrated by the applicant to be extremely remote, or if the nature of the pesticide is such that it is approved for use on infants or small children, may the Administrator waive this requirement.

(iii) Statement of practical treatment--(A) Toxicity Category I. A statement of practical treatment (first aid or other) shall appear on the front panel of the label of all pesticides falling into Toxicity Category I on the basis of oral, inhalation or dermal toxicity. The Agency may, however, permit reasonable variations in the placement of the statement of practical treatment is some reference such as "See statement of practical treatment on back panel" appears on the front panel near the word "Poison" and the skull and crossbones.

(B) Other toxicity categories. The statement of practical treatment is not required on the front panel except as described in paragraph (h)(1)(iii)(A) of this section. The applicant may, however, include such a front panel statement at his option. Statements of practical treatment are, however, required elsewhere on the label in accord with paragraph (h)(2) of this section if they do not appear on the front panel.

(iv) Placement and prominence. All the required front panel warning statements shall be grouped together on the label, and shall appear with sufficient prominence relative to other front panel text and graphic material to make them unlikely to be overlooked under customary conditions of purchase and use. The following table shows the minimum type size requirements for the front panel warning statements on various sizes of labels:

Size of label front panel in square inches	Points	
	Required signal word, all capitals	"Keep out of reach of Children"
5 and under	6	6
Above 5 to 10	10	6
Above 10 to 15	12	8
Above 15 to 30	14	10
Over 30	18	12

(2) Other required warnings and precautionary statements. The warnings and precautionary statements as required below shall appear together on the label under the general heading "Precautionary Statements" and under appropriate subheadings of "Hazard to Humans and Domestic Animals," "Environmental Hazard" and "Physical or Chemical Hazard."

(i) Hazard to humans and domestic animals. (A) Where a hazard exists to humans or domestic animals, precautionary statements are required indicating the particular hazard, the route(s) of exposure and the precautions to be taken to avoid accident, injury or damage. The precautionary paragraph shall be immediately preceded by the appropriate hazard signal word.

(B) The following table depicts typical precautionary statements. These statements must be modified or expanded to reflect specific hazards.

Toxicity category	Precautionary statements by toxicity category	
	Oral, inhalation, or dermal toxicity	Skin and eye local effects
I . . .	Fatal (poisonous) if swallowed [inhaled or absorbed through skin]. Do not breathe vapor [dust] or spray mist]. Do not get in eyes, on skin, or on clothing [Front panel statement of practical treatment required.].	Corrosive, causes eye and skin damage [or skin irritation]. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful or fatal if swallowed. [Appropriate first aid statement required.]
II . . .	May be fatal if swallowed [inhaled or absorbed through the skin]. Do not breathe vapors [dust or spray mist]. Do not get in eyes, on skin, or on clothing. [Appropriate first aid statements required.].	Causes eye [and skin] irritation. Do not get in eyes, on skin, or on clothing. Harmful if swallowed. [Appropriate first aid statement required.].
III . . .	Harmful if swallowed [inhaled or absorbed through the skin]. Avoid breathing vapors [dust or spray mist]. Avoid contact with skin [eyes or clothing]. [Appropriate first aid statement required.].	Avoid contact with skin, eyes or clothing. In case of contact immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists.
IV . . .	[No precautionary statements required.].	[No precautionary statements required.].

(ii) Environmental hazards. Where a hazard exists to non-target organisms excluding humans and domestic animals, precautionary statements are required stating the nature of the hazard and the appropriate precautions to avoid potential accident, injury or damage. Examples of the hazard statements and the circumstances under which they are required follow:

(A) If a pesticide intended for outdoor use contains an active ingredient with a mammalian acute oral LD_{50} of 100 or less, the statement "This Pesticide is Toxic to Wildlife" is required.

(B) If a pesticide intended for outdoor use contains an active ingredient with a fish acute LC_{50} of 1 ppm or less, the statement "This Pesticide is Toxic to Fish" is required.

(C) If a pesticide intended for outdoor use contains an active ingredient with an avian acute oral LD_{50} of 100 mg/kg or less, or a subacute dietary LC_{50} of 500 ppm or less, the statement "This Pesticide is Toxic to Wildlife" is required.

(D) If either accident history or field studies demonstrate that use of the pesticide may result in fatality to birds, fish or mammals, the statement "This pesticide is extremely toxic to wildlife (fish)" is required.

(E) For uses involving foliar application to agricultural crops, forests, or shade trees, or for mosquito abatement treatments, pesticides toxic to pollinating insects must bear appropriate label cautions.

(F) For all outdoor uses other than aquatic applications the label must bear the caution "Keep out of lakes, ponds or streams. Do not contaminate water by cleaning of equipment or disposal of wastes."

(iii) Physical or chemical hazards. Warning statements on the flammability or explosive characteristics of the pesticide are required as follows:

Flash point	Required text
(A) PRESSURIZED CONTAINERS	
Flash point at or below 20°F; if there is a flashback at any valve opening.	Extremely flammable. Contents under pressure. Keep away from fire, sparks, and heated surfaces. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
Flash point above 20°F and not over 80°F or if the flame extension is more than 18 in. long at a distance of 6 in. from the flame.	Flammable. Contents under pressure. Keep away from heat, sparks, and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
All other pressurized containers	Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
(B) NONPRESSURIZED CONTAINERS	
At or below 20°F	Extremely flammable. Keep away from fire, sparks, and heated surfaces.
Above 20°F and not over 80°F	Flammable. Keep away from heat and open flame.
Above 80°F and not over 150°F	Do not use or store near heat or open flame.

(i) Directions for Use--(1) General requirements--(i) Adequacy and clarity of directions. Directions for use must be stated in terms which can be easily read and understood by the average person likely to use or to supervise the use of the pesticide. When followed, directions must be adequate to protect the public from fraud and from personal injury and to prevent unreasonable adverse effects on the environment.

(ii) Placement of directions for use. Directions may appear on any portion of the label provided that they are conspicuous enough to be easily read by the user of the pesticide product. Directions for use may appear on printed or graphic matter which accompanies the pesticide provided that:

(A) If required by the Agency, such printed or graphic matter is securely attached to each package of the pesticide, or placed within the outside wrapper or bag;

(B) The label bears a reference to the directions for use in accompanying leaflets or circulars, such as "See directions in the enclosed circular." and

(C) The Administrator determines that it is not necessary for such directions to appear on the label.

(iii) Exceptions to requirement for direction for use--(A) Detailed directions for use may be omitted from labeling of pesticides which are intended for use only by manufacturers of products other than pesticide products in their regular manufacturing processes, provided that:

(1) The label clearly shows that the product is intended for use only in manufacturing processes and specifies the type(s) of products involved.

(2) Adequate information such as technical data sheets or bulletins, is available to the trade specifying the type of product involved and its proper use in manufacturing processes;

(3) The product will not come into the hands of the general public except after incorporation into finished products; and

(4) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment.

(B) Detailed directions for use may be omitted from the labeling of pesticide products for which sale is limited to physicians, veterinarians, or druggists, provided that:

(1) The label clearly states that the product is for use only by physicians or veterinarians;

(2) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment; and

(3) The product is also a drug and regulated under the provisions of the Federal Food, Drug and Cosmetic Act.

(C) Detailed directions for use may be omitted from the labeling of pesticide products which are intended for use only by formulators in preparing pesticides for sale to the public, provided that:

(1) There is information readily available to the formulators on the composition, toxicity, methods of use, applicable restrictions or limitations, and effectiveness of the product for pesticide purposes;

(2) The label clearly states that the product is intended for use only in manufacturing, formulating, mixing, or repacking for use as a pesticide and specifies the type(s) of pesticide products involved;

(3) The product as finally manufactured, formulated, mixed, or repackaged is registered; and

(4) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment.

(2) Contents of Directions for Use. The directions for use shall include the following, under the headings "Directions for Use":

(i) The statement of use classification as prescribed in 162.10(j) immediately under the heading "Directions for Use."

(ii) Immediately below the statement of use classification, the statement "It is a violation of Federal law to use this product in a manner inconsistent with its labeling."

(iii) The site(s) of application, as for example the crops, animals, areas, or objects to be treated.

(iv) The target pest(s) associated with each site.

(v) The dosage rate associated with each site and pest.

(vi) The method of application, including instructions for dilution, if required, and type(s) of application apparatus or equipment requried.

(vii) The frequency and timing of applications necessary to obtain effective results without causing unreasonable adverse effects on the environment.

(viii) Specific limitations on reentry to areas where the pesticide has been applied, meeting the requirements concerning reentry provided by 40 CFR Part 170.

(ix) Specific directions concerning the storage and disposal of the pesticide and its container, meeting the requirements of 40 CFR Part 165. These instructions shall be grouped and appear under the heading "Storage and Disposal." This heading must be set in type of the same minimum sizes as required for the child hazard warning (See Table in § 162.10(h)(1)(iv).)

(x) Any limitations or restrictions on use required to prevent unreasonable adverse effects, such as:

(A) Required intervals between application and harvest of food or feed crops.

(B) Rotational crop restrictions.

(C) Warnings as required against use on certain crops, animals, objects, or in or adjacent to certain areas.

(D) [Reserved]

(E) For restricted use pesticides, a statement that the pesticide may be applied under the direct supervision of a certified applicator who is not physically present at the site of application but nonetheless available to the person applying the pesticide, unless the Agency has determined that the pesticide may only be applied under the direct supervision of a certified applicator who is physically present.

(F) Other pertinent information which the Administrator determines to be necessary for the protection of man and the environment.

(j) Statement of Use Classification. By October 22, 1976, all pesticide products must bear on their labels a statement of use classification as described in paragraphs (j)(1) and (2) of this section. Any pesticide product for which some uses are classified for general use and others for restricted use shall be separately labeled according to the labeling standards set forth in this subsection, and shall be marketed as separate products with different registration numbers, one bearing directions only for general use(s) and the other bearing directions for restricted use(s) except that, if a product has both restricted use(s) and general use(s), both of these uses may appear on a product labeled for restricted use. Such products shall be subject to the provisions of § 162.10(j)(2).

(1) General Use Classification. Pesticide products bearing directions for use(s) classified general shall be labeled with the exact words "General Classification" immediately below the heading "Directions for Use." And reference to the general classification that suggests or implies that the general utility of the pesticide extends beyond those purposes and uses contained in the Directions for Use will be considered a false or misleading statement under the statutory definitions of misbranding.

(2) Restricted Use Classification. Pesticide products bearing direction for use(s) classified restricted shall bear statements of restricted use classification on the front panel as described below:

(i) Front panel statement of restricted use classification.
(A) At the top of the front panel of the label, set in type of the same minimum sizes as required for human hazard signal words (see table in § 162.10(h)(1)(iv)), and appearing with sufficient prominence relative to other text and graphic material on the front panel to make it unlikely to be overlooked under customary conditions of purchase and use, the statement "Restricted Use Pesticide" shall appear.

(B) Directly below this statement on the front panel, a summary statement of the terms of restriction imposed as a precondition to registration shall appear. If use is restricted to certified applicators, the following statement is required: "For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification." If, however, other regulatory restrictions are imposed, the Administrator will define the appropriate wording for the terms of restriction by regulation.

(k) Advertising. [Reserved]

[40 FR 28268, July 3, 1975; 40 FR 32329, Aug. 1, 1975; 40 FR 38571, Aug. 21, 1975, as amended at 43 FR 5786, Feb. 9, 1978]

PHYS/CHEM-1

PHYSICAL/CHEMICAL HAZARDS

Criteria	Required Label Statement
I. Pressurized Containers	
A. Flashpoint at or below 20°F; or if there is a flashback at any valve opening.	Extremely flammable. Contents under pressure. Keep away from fire, sparks, and heated surfaces. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
B. Flashpoint above 20°F and not over 80°F; or if the flame extension is more than 18 inches long at a distance of 6 inches from the valve opening.	Flammable. Contents under pressure. Keep away from heat, sparks, and flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
C. All Other Pressurized Containers	Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.
II. Non-Pressurized Containers	
A. Flashpoint at or below 20°F.	Extremely flammable. Keep away from fire, sparks, and heated surfaces.
B. Flashpoint above 20°F and not over 80°F.	Flammable. Keep away from heat and open flame.
C. Flashpoint over 80°F and not over 150°F.	Do not use or store near heat and open flame.
D. Flashpoint above 150°F.	None required.

STORAGE INSTRUCTIONS FOR PESTICIDES

Heading:

All products are required to bear specific label instructions about storage and disposal. Storage and disposal instructions must be grouped together in the directions for use portion of the label under the heading STORAGE AND DISPOSAL. Products intended solely for domestic use need not include the heading "STORAGE AND DISPOSAL."

Storage Instructions:

All product labels are required to have appropriate storage instructions. Specific storage instructions are not prescribed. Each registrant must develop his own storage instructions, considering, when applicable, the following factors:

1. Conditions of storage that might alter the composition or usefulness of the pesticide. Examples could be temperature extremes, excessive moisture or humidity, heat, sunlight, friction, or contaminating substances or media.

2. Physical requirements of storage which might adversely affect the container of the product and its ability to continue to function properly. Requirements might include positioning of the container in storage, storage or damage due to stacking, penetration of moisture, and ability to withstand shock or friction.

3. Specifications for handling the pesticide container, including movement of container within the storage area, proper opening and closing procedures (particularly for opened containers), and measures to minimize exposure while opening or closing container.

4. Instructions on what to do if the container is damaged in any way, or if the pesticide is leaking or has been spilled, and precautions to minimize exposure if damage occurs.

5. General precautions concerning locked storage, storage in original container only, and separation of pesticides during storage to prevent cross-contamination of other pesticides, fertilizer, food, and feed.

6. General storage instructions for household products should emphasize storage in original container and placement in locked storage areas.

PEST/DIS-1

PESTICIDE DISPOSAL INSTRUCTIONS

The label of all products, except those intended solely for domestic use, must bear explicit instructions about pesticide disposal. The statements listed below contain the exact wording that must appear on the label of these products:

1. The labels of all products, except domestic use, must contain the statement, "Do not contaminate water, food, or feed by storage or disposal."

2. Except those products intended solely for domestic use, the labels of all products that contain active ingredients that are Acute Hazardous Wastes or are assigned to Toxicity Category I on the basis of oral or dermal toxicity, or Toxicity Category I or II on the basis of acute inhalation toxicity must bear the following pesticide disposal statement:

> "Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance."

3. The labels of all products, except those intended for domestic use, containing active or inert ingredients that are Toxic Hazardous Wastes or meet any of the criteria in 40 CFR 261, Subpart C for a hazardous waste must bear the following pesticide disposal statement:

> "Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance."

4. Labels for all other products, except those intended for domestic use, must bear the following pesticide disposal statement:

> "Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility."

5. Products intended for domestic use only must bear the following disposal statement: "Securely wrap original container in several layers of newspaper and discard in trash."

CONT/DIS-1

CONTAINER DISPOSAL INSTRUCTIONS

The label of each product must bear container disposal instructions appropriate to the type of container.

1. Domestic use products must bear one of the following container disposal statements:

Container Type	Statement
Non-aerosol products (bottles, cans, jars)	Do not reuse container (bottle, can, jar). Rinse thoroughly before discarding in trash.
Non-aerosol products (bags)	Do not reuse bag. Discard bag in trash.
Aerosol products	Replace cap and discard containers in trash. Do not incinerate or puncture.

2. All other products must bear container disposal instructions, based on container type, listed below:

Container Type	Statement
Metal containers (non-aerosol)	Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.
Plastic containers	Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.
Glass containers	Triple rinse (or equivalent). Then dispose of in a sanitary landfill or by other approved state and local procedures.
Fiber drums with liners	Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by state and local authorities. If drum is contaminated and cannot be reused[1], dispose of in the same manner.
Paper and plastic bags	Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.
Compressed gas cylinders	Return empty cylinder for reuse (or similar wording)

1/ Manufacturer may replace this phrase with one indicating whether and how fiber drum may be reused.

APPENDIX III

USE INDEX

EPA Compendium of Acceptable Uses

ISOPROPYL N-(3-CHLOROPHENYL)CARBAMATE

TABLE OF CONTENTS

Site Name	Page
TERRESTRIAL FOOD CROP	3
(Agricultural Crops)	3
TERRESTRIAL NONFOOD CROP	16
(Agricultural Crops)	16
(Ornamental Plants and Forest Trees)	17
Ageratum	17
Alfalfa	3
Alfalfa (seed crop)	5
Alfalfa-Grass Mixture	6
Alyssum	17
Arborvitae	17
Aster	18
Astilbe	18
Azalea	17
Balsam Fir	17
Barberry	17
Beans (lima, snap)	6
Begonia	17
Birch	17
Blackberry	6
Bluebell	18
Blueberry	6
Boxwood	17
Camellia	17
Carnation	18
Carrots	7
Cedar	17
Cherry (ornamental)	17
Chrysanthemum	17
Clover	7
Coleus	17
Columbine	18
Coral Bells	18
Cotoneaster	17
Crabapple (ornamental)	17
Cranberry	7
Creeping Juniper	18
Daffodils (bulbs)	18
Dahlias (bulbs)	18
Dianthus	17
Dogwood	17
Dutch Iris (bulbs)	18
Easter Lilies	19
English Ivy	18
Enkianthus	17
Euonymus	17
Fir	17
Forget-Me-Not	18
Forsythia	17

EPA Compendium of Acceptable Uses

ISOPROPYL N-(3-CHLOROPHENYL)CARBAMATE

TABLE OF CONTENTS

Site Name	Page
Fuchsia	17
Garden Balsam	17
Garlic	8
Geranium	17
Ginkgo	19
Gladiolus (bulbs)	18
Grasses, Perennial (seed crop)	9
Heather	17
Hemlock	17
Holly	17
Honeysuckle	17
Hydrangea	17
Iris	19
Juniper	17
Ladino Clover	9
Larkspur	18
Laurel	17
Leucothoe	17
Ligustrum	17
Lilac	17
Lilies (bulbs)	19
Locust	17
Magnolia	17
Mahonia	18
Maple	18
Marigold	17
Mock-Orange	18
Myrtle	18
Narcissus (bulbs)	19
Onion	9
Ornamental Woody Plants	20
Pachysandra	18
Pansies	17
Peonies	18
Petunias	17
Pieris	18
Pine	18
Plum (ornamental)	18
Poplar	18
Potato	10
Raspberry	6
Red Clover	9
Rhododendron	18
Rose	18
Safflower	12
Salvia	17
Snapdragon	17
Southern Peas	12
Soybeans	12
Spinach (fall seeded)	14

EPA Compendium of Acceptable Uses

ISOPROPYL N-(3-CHLOROPHENYL)CARBAMATE

TABLE OF CONTENTS

Site Name	Page
Spirea	18
Spruce	18
Sugar Beets	14
Sugar Beets (seed crop)	15
Sycamore	18
Tobacco, Flue-Cured	16
Tomato	15
Trefoil	9
Tulips (bulbs)	19
Viburnum	18
White Clover	9
Wintercreeper	18
Yew	18
Zinnia	17

ISOPROPYL N-(3-CHLOROPHENYL)CARBAMATE*

__TYPE PESTICIDE__: Herbicide, Plant Regulator

__FORMULATIONS__:
Tech (98%)
G (5%, 10.3%, 20%)
EC (1 lb/gal or 11.9% a.i., 1.33 lb/gal or 15% a.i., 2 lb/gal or 22.2% a.i., 25%, 3 lb/gal or 36% a.i., 4 lb/gal or 47% a.i.)
RTU (4 lb/gal or 46% a.i. or 46.5% a.i., 4.3 lb/gal or 49.65% a.i., 7 lb/gal or 78.4% a.i. or 78.5% a.i.)

__GENERAL WARNINGS AND LIMITATIONS__: A selective herbicide and plant regulator for use in agricultural and ornamental crops. This chemical is toxic to fish. Do not apply directly to water or wetlands (swamps, bogs, marshes or potholes). Do not apply where runoff is likely to occur. Do not contaminate water by cleaning of equipment or disposal of wastes. Adequate soil moisture (rainfall or irrigation) is necessary for effective weed control. Do not cultivate or disturb soil after treatment. For band and strip treatments, reduce dosages and water dilution rates proportionately.
__Interim Tolerances__: While petitions for tolerances for negligible residues are pending and until action is completed, interim tolerances are established.
__Agricultural Crop Tolerances__ (other than those listed in the text):

Rice, grain	0.1	(I)	ppm

__Livestock Tolerances__:

Cattle, fat	0.05	(I)	ppm
Cattle, meat	0.05	(I)	ppm
Cattle, mbyp	0.05	(I)	ppm
Eggs	0.05	(I)	ppm
Goats, fat	0.05	(I)	ppm
Goats, meat	0.05	(I)	ppm
Goats, mbyp	0.05	(I)	ppm
Hogs, fat	0.05	(I)	ppm
Hogs, meat	0.05	(I)	ppm
Hogs, mbyp	0.05	(I)	ppm
Horses, fat	0.05	(I)	ppm
Horses, meat	0.05	(I)	ppm
Horses, mbyp	0.05	(I)	ppm
Milk	0.05	(I)	ppm
Poultry, fat	0.05	(I)	ppm
Poultry, meat	0.05	(I)	ppm
Sheep, fat	0.05	(I)	ppm
Sheep, meat	0.05	(I)	ppm
Sheep, mbyp	0.05	(I)	ppm

__TIME REQUIRED FOR CONTROL__: Not located.

__PHYTOTOXICITY TO TARGET WEEDS__: Not located.

__PHYTOTOXICITY TO CROPS__: Not located.

*chlorpropham

ISOPROPYL N-(3-CHLOROPHENYL)CARBAMATE

MODE OF ACTION: Suppresses transpiration and respiration, inhibits root and epicotyl growth.

BROADLEAF WEEDS CONTROLLED:

PBKAIAA	Bittercress	
PEWAIBE	Black nightshade	
PADABBA	Carpetweed	
PAZAAAC	Chickweed	
PBGADAA	Dodder	
PBKAGAA	Falseflax	
PCOAFBA	Henbit	
PBTABAA	Horsetail	
PEAAGAC	Knotweed	
PEAAGBP	Ladysthumb	
PBKBDBB	London rocket	(a)
PCYAEAA	Loosestrife	
PDAAHAA	Mallow	
PEAAGBO	Pennsylvania smartweed	
PAAAABP	Purslane	
PEAAHBB	Red sorrel	
PAFACBI	Redroot pigweed	
PBKAHBA	Sheperdspurse	(a)
PBKBCBA	Sibara	
PAAAAAV	Summer annual weeds	
PEAAGAE	Tearthumb	
PEAAGBH	Wild buckwheat	
PBKBKBB	Wild mustard	(a)
PAAAAAW	Winter annual weeds	

(a) Controls weeds when treatment is made in conjunction with irrigation.

GRASSES AND OTHER MONOCOTS CONTROLLED:

PCACKBA	Annual bluegrass
PZAAAAD	Annual brome
PCAAAAB	Annual grasses
PCABHBB	Barnyardgrass
PCAADAA	Bentgrass
PCAAVBA	Bluejoint reedgrass
PCACHBB	Canarygrass
PCABRBA	Common velvetgrass
PCABFAA	Crabgrass
PCAATBM	Downy brome
PCACUAA	Foxtail
PCAAAAF	Grain (volunteer)
PCABZBA	Italian ryegrass
PCABSBF	Little barley
PCACLBB	Rabbitfoot polypogon
PCAEABE	Rattail fescue

ISOPROPYL N-(3-CHLOROPHENYL)CARBAMATE

GRASSES AND OTHER MONOCOTS CONTROLLED (continued)

PCLABAA	Rush
PCABKBC	Stinkgrass
PZAAAFX	Turkeyfootgrass
PCAAOBB	Wild oats
PCAAAAM	Winter annual grasses
PCACEBC	Witchgrass

PLANT REGULATOR CLAIMS:

PZZZZZA	Plant regulator (fruit inhibitor)
PZZZZZA	Plant regulator (prevent sucker development)
PZZZZZA	Plant regulator (flower bud abscission)
PZZZZZA	Plant regulator (sprout inhibitor)

	Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
	TERRESTRIAL FOOD CROP	
	(Agricultural Crops)	
/23001AA	**Alfalfa**	20 (I) ppm (alfalfa) 50 (I) ppm (alfalfa, hay) 20 day preharvest interval. Do not graze or feed treated crop within 40 days of application. General Information: These uses will not control attached dodder. Use on alfalfa planted no later than the spring or fall of the previous year. Do not apply to alfalfa foliage that is wet or damp. Seedling crops should have at least 4-true leaves. Do not use on grass-legume mixed stands as grass may be injured. Apply when soil is moist.
	4 (20% G)	Postemergence. Broadcast. Apply to late summer seeded or established alfalfa plantings.

Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
Alfalfa (continued)	
4-6 (4 lb/gal EC)	Postemergence. Broadcast or band. For control of dodder. Apply in 20 or more gallons of water per acre by ground or 5 or more gallons of water per acre by air prior to dodder germination. Apply to the first crop in the early spring prior to alfalfa breaking dormancy or at lay-by. Apply to the second crop in early spring prior to alfalfa breaking dormancy and/or after removal of first forage crop. Tank mix with carbaryl.
1-3 (4 lb/gal EC)	Use limited to areas east of the Rocky Mountains. Postemergence. Broadcast or band. For control of chickweed and downy brome. Apply in 20 to 40 gallons of water per acre to late summer seeded or established alfalfa plantings. Use the lower dosage from October through January and the higher dosage after February 1. May be applied to actively growing semi-dormant or dormant alfalfa.
2-4 (4 lb/gal EC)	Use limited to areas west of the Rocky Mountains. Postemergence. Broadcast or band. Apply in 20 to 40 gallons of water per acre to summer seeded or established alfalfa plantings.
4-6 (20% G)	Use limited to CA, ID, NV, OR, UT and WA. Postemergence. Broadcast or band. For control of dodder. Apply in the spring prior to dodder germination. Use the lower dosage for repeat applications and the higher dosage for single applications.
[SLN] 4-6 (20% G)	SLN - Use limited to CA and UT. Postemergence. Broadcast or band. For control of dodder. Apply by ground or by air prior to dodder germination. Repeat application in 4 to 6 weeks.
[SLN] 2-3 (4 lb/gal EC)	SLN - Use limited to Yuma County, AZ. Postemergence. Broadcast. Apply into the irrigation water system in the late fall or winter when alfalfa plants have at least 6-true leaves and are 4 to 6 inches tall.

ISOPROPYL N-(3-CHLOROPHENYL)CARBAMATE

	Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
/23001BA	Alfalfa (seed crop)	20 (I) ppm (alfalfa) 50 (I) ppm (alfalfa, hay) 20 day preharvest interval. Do not graze or feed treated crop within 40 days of application. General Information: These uses will not control attached dodder. Use on alfalfa planted no later than the spring or fall of the previous year. Do not apply to alfalfa foliage that is wet or damp. Seedling crops should have at least 4-true leaves. Do not use on grass-legume mixed stands as grass may be injured.
	4-6 (4 lb/gal EC)	Postemergence. Broadcast or band. For control of dodder. Apply in 20 or more gallons of water per acre by ground or 5 or more gallons of water per acre by air prior to dodder germination. Apply to the first crop in the early spring prior to alfalfa breaking dormancy or at lay-by. Apply to the second crop in early spring prior to alfalfa breaking dormancy and/or after removal of first forage crop. Tank mix with carbaryl.
	4-6 (20% G)	Use limited to CA, ID, NV, OR, UT, and WA. Postemergence. Broadcast or band. For control of dodder. Apply in the spring prior to dodder germination. Use the lower dosage for repeat applications and the higher dosage for single applications.
	[SLN] 4-6 (20% G)	SLN - Use limited to CA and UT. Postemergence. Broadcast or band. For control of dodder. Apply by ground or by air prior to dodder germination. Repeat application in 4 to 6 weeks.

	Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
/28069AA	Alfalfa-Grass Mixture	20 (I) ppm (alfalfa, grasses) 50 (I) ppm (alfalfa, grasses, hay) Do not graze or harvest treated crop for forage within 40 days of treatment. General Information: Includes mixed stands of alfalfa and orchardgrass, tall fescue, or smooth bromegrass.
	[SLN] 2-3 (4 lb/gal EC)	SLN - Use limited to KY. Postemergence. Broadcast. For control of chickweed. Apply in 20 to 40 gallons of water per acre to established stands. Use the lower dosage before chickweed emerges until chickweed is 3 inches tall and the higher dosage when chickweed is over 3 inches tall and/or after February 1.
/15027AA	Beans (lima, snap)	0.3 (I) ppm (beans, dried, succulent) General Information: Seeds should be planted at least 1 inch deep.
	4 (20% G) (4 lb/gal EC)	Preemergence. Broadcast or band. May be applied in 20 to 40 gallons of water per acre after planting but before bean plants emerge.
/01002AA /01006AA	Blackberry Raspberry	0.3 (I) ppm
	6 (20% G) (4 lb/gal EC)	Dormant application. Directed spray to soil. Apply in 40 gallons of water per acre in late winter or early spring. Avoid wetting canes.
/01009AA	Blueberry	0.3 (I) ppm
	8-12 (20% G) (4 lb/gal EC)	Dormant application. Directed spray to base of blueberry plants. Apply in 40 gallons of water per acre in the fall. Retreat in the spring before weed growth begins.

	Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
/14003AA	Carrots	0.1 (I) ppm General Information: Do not use in CA. Use the lower dosage on clay loam soils and the higher dosage on heavy, dark mineral or muck soils.
	4-6 (20% G) (4 lb/gal EC)	Preemergence. Broadcast or band. Apply in 20 to 40 gallons of water per acre.
/23003AA	Clover	20 (I) ppm (clover) 50 (I) ppm (clover, hay) 40 day preharvest interval. Do not graze or feed treated crop within 40 days of application. General Information: Seedling crops should have at least 4-true leaves. Do not use on grass-clover stands as grass may be injured. Apply when soil is moist.
	4 (20% G)	Postemergence. Broadcast or band. Apply to the late summer seeded or established clover plantings.
	2-4 (4 lb/gal EC)	Postemergence. Broadcast or band. Apply in 20 to 40 gallons of water per acre to late summer seeded or established dormant plantings.
/01010AA	Cranberry	0.3 (I) ppm General Information: Apply when plants are dry to avoid contact and possible injury to fruit buds and loss of yield. Do not allow chemical to contact sensitive crops such as beets, spinach, and tomatoes.
	10-20 (20% G)	Dormant application to established plantings. Broadcast. Apply in the early winter after harvest or in early spring before cranberry growth begins.

	Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
	Cranberry (continued)	
	[MAI] 5 (5% G)	Use limited to MA. Dormant application to established cranberry plantings. Broadcast. Apply prior to bud break, from April 1 to May 10, by ground or by air. When using ground equipment, it is suggested that a piece of canvas or burlap be dragged behind the application (over the plants) to brush any granules adhering to the foliage onto the soil suface. Formulated with sodium N-1-naphthylphthalamate.
/14007AA	Garlic	0.1 (I) ppm 30 day preharvest interval. General Information: Do not use on light, sandy soils or soils containing less than 1 percent organic matter. Irrigate within 5 days of application.
	4 (4 lb/gal EC)	Use limited to CA. Preemergence. Broadcast or band. Apply in 20 to 70 gallons of water per acre to fall seeded sets immediately after planting.
	4 (4 lb/gal EC)	Use limited to CA. Postemergence. Directed spray to the lower 1 to 2 inches of garlic plant. Avoid wetting plant tops. Apply in 20 to 70 gallons of water per acre.
	[SLN] 2-4 (4 lb/gal EC)	SLN - Use limited to CA. Preemergence. Broadcast or band. Apply in 20 to 70 gallons of water per acre to fall seeded set immediately after planting. Use the lower dosage on coarse-textured soils or when soil temperatures are below 60 F (15.5 C) and the higher dosage on medium/fine-textured soils or when soil temperatures are above 60 F (15.5 C).
	[SLN] 4 (4 lb/gal EC)	SLN - Use limited to CA. Postemergence. Directed spray to the lower 1 to 2 inches of the garlic plant. Apply in 20 to 70 gallons of water per acre when garlic plants are 6 inches tall and have 3 or more true leaves. Avoid wetting plant tops.

EPA Compendium of Acceptable Uses

ISOPROPYL N-(3-CHLOROPHENYL)CARBAMATE

	Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
/28066BA	Grasses, Perennial (seed crop)	20 (I) ppm (grass) 50 (I) ppm (grasses, hay) 30 day preharvest interval. General Information: Do not use on new varieties or selections without small plot testing to determine crop tolerance. Only true perennial varieties are tolerant. Crosses with annual varieties may be susceptible to crop injury. Apply prior to October 20 for fine fescue varieties.
	-- (4 lb/gal EC)	Use limited to OR, west of the Cascade Mountains. Postemergence. Broadcast or band to established grass stands which have been harvested for seed at least once. Apply in the fall after the rains have started but before November 1. The dosage for this site was not listed on the label.
/23016AA /23014AA /23019AA /23017AA	Ladino Clover Red Clover Trefoil White Clover	20 (I) ppm (clover) 50 (I) ppm (clover, hay) 40 day preharvest interval. General Information: Seedling crops should have at least 4-true leaves. Do not use on grass-clover mixed stands as grass may be injured. Apply when soil is moist.
	2-4 (4 lb/gal EC)	Postemergence. Broadcast or band. Apply in 20 to 40 gallons of water per acre to late summer seeded or established dormant plantings.
/14011AA	Onion	0.1 (I) ppm 30 day preharvest interval. General Information: Do not use on sandy soils, coarse-textured soils or soils containing less than 4 percent organic matter. Do not apply during flag stage as injury to onions may occur. Use the lower dosage on heavy, dark mineral soils and the higher dosage on muck soils or when soil temperatures are above 60 F (15.5 C).
	4-8 (20% G) (4 lb/gal EC)	Preemergence. Broadcast to sets or seeded onions. Apply up to the early loop stage of seeded onions. The 4 pound per gallon emulsifiable concentrate formulation is not recommended for use in CA.

EPA Compendium of Acceptable Uses

ISOPROPYL N-(3-CHLOROPHENYL)CARBAMATE

	Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
	Onion (continued)	
	4-8 (20% G) (4 lb/gal EC)	Postemergence. Broadcast to sets, seeded or transplanted onions. Apply when onions are 6 inches tall and have 3 or more true leaves.
/14013EA	Potato	50 ppm General Information: Apply when potatoes enter storage bins or at the time of grading or sorting. Do not apply in fields or on seed potatoes. Apply after bruises and cuts on potatoes have healed (minimum 2 weeks). Do not allow vapors to come in contact with, or get near storage areas used for seed potatoes. If entry into the storage area is necessary during or immediately following application (before the fog has settled), protective clothing and respirators must be worn. Treated storage areas should be monitored to prevent overheating, assure proper air flow, and prevent excessive moisture build-up.
	0.09-0.13 gal diluted spray/ 1,000 lb potatoes (25% EC) (3 lb/gal EC)	Postharvest. Plant regulator (sprout inhibitor). Apply 1 gallon of product in 24 to 35 gallons of water. Apply diluted spray using nozzles placed evenly across the rollers on which the potatoes are moving. Potatoes must be cured, washed and damp dried before treatment.
	1.7-2.2 lb a.i./ 1,000 lb potatoes (4, 4.3, 7 lb/gal RTU) [SLN] 1.7 lb a.i./1,000 lb potatoes (7 lb/gal RTU)	Postharvest. Plant regulator (sprout inhibitor). Apply after curing but before sprouting. Forced air distribution: Insert aerosol generator intake hose into product container. Set air ducts for recirculation. Place exhaust end of aerosol generator at center of air mixing chamber (plenum) pointing it in direction of air flow. Keep storage closed during application and for 48 hours after treatment. Continue to recirculate air in storage areas until fog has settled then resume normal ventilation. OR Areas without recirculating air systems: Prior to placing potatoes in treatment areas the following preparations should be

Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
Potato (continued)	
	made. On the floor, install an air duct (12 inches by 12 inches) running the length or width of the potato pile. Leave a false wall space at both ends for air circulation. At the end of each duct (in the false wall space) where the fog is to be introduced, place a squirrel cage fan positioned to force air through the duct. Block the exhaust end of the duct to force air up through the piles of potatoes. When potatoes are ready for treatment, close off ventilating systems, start squirrel cage fan and introduce fog as near as possible to the bottom of the false wall space containing the fans. Keep the fans operating until the fog has settled. Reactivate the ventilation system 48 hours after treatment.
[SLN] 1.7-3.3 lb a.i./ 1,000 lb potatoes (4 lb/gal RTU)	SLN - Use limited to ID, ND, OR and WA. Postharvest. Plant regulator (sprout inhibitor). For treatment of potatoes in forced air or refrigerated storage areas. Use the lower dosage when storing potatoes for 2 to 3 months at 45 F (7.2 C) to 50 F (10.0 C) and the higher dosage when storing potatoes for 4 to 6 months at 50 F (10.0 C). Do not retreat storage areas until potatoes have been analyzed for residues. When residue levels decrease to 4 parts per million, retreat at a rate of 1.7 pounds active ingredient per 1,000 pounds of potatoes. A maximum of 3.3 pounds active ingredient per 1,000 pounds of potatoes may be applied within any 6 month period.
Raspberry	See Blackberry cluster.
Red Clover	See Ladino Clover cluster.

	Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
/28076AA	Safflower	0.1 (I) ppm (safflower seed) General Information: Irrigate following application.
	3-6 (4 lb/gal EC)	Preplant incorporate. Broadcast. Apply in 35 to 50 gallons of water per acre within 1 to 3 days of planting. Shallow incorporate 1 to 2 inches. Use 3 pounds active ingredient per acre on sandy soils, 4 pounds active ingredient per acre on clay soils, and 6 pounds active ingredient per acre on peat soils.
/15008AA	Southern Peas	0.3 (I) ppm (peas, dried, succulent) General Information: Seeds should be planted at least 1 inch deep. Use the lower dosage on coarse-textured soils and the higher dosage on fine-textured soils.
	4-6 (20% G)	Preemergence. Broadcast. Apply at planting.
/28023AA	Soybeans	0.2 ppm Do not feed forage or pods to livestock. General Information: Do not use in CA. Plant soybeans 1 to 2 inches deep.
	2-3 (20% G) (4 lb/gal EC)	Preemergence. Broadcast or band. Apply following a preplant incorporated application of alachlor, profluralin or trifluralin. Use the lower dosage on coarse-textured soils and the higher dosage on fine-textured soils.
	2-3 (4 lb/gal EC)	Preemergence. Broadcast or band. Apply in 5 to 40 gallons of water per acre at or immediately after planting. Use the lower dosage on coarse-textured soils and the higher dosage on medium/fine-textured soils. Tank mix with alachlor.
	2-3 (4 lb/gal EC)	Use limited to the north central United States. Preplant incorporated. Broadcast or band. Apply in 10 to 40 gallons of water per acre. Use the lower dosage on coarse-textured soils and the higher dosage on medium/fine-textured soils. Tank mix with profluralin, trifluralin, or vernam. Soil incorporate within 4 hours

Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
Soybeans (continued)	of the profluralin and trifluralin tank mix application and within minutes after the vernam tank mix application.
[MAI] 2-4 (5%, 10.3% G) (1.33 lb/gal EC)	Preemergence. Broadcast or band. Apply within 48 hours of planting soybeans and before weed emergence. In the black soil areas of western IN, southern MS, northern IA and IL the dosage should be reduced by half. Do not soil incorporate. Formulated with sodium N-1-naphthylphthalamate. OR Preemergence. Broadcast or band. Apply in 30 to 40 gallons of water per acre within 48 hours of planting soybeans and before weed emergence. Do not use on fine-textured silt loam soils. Formulated with sodium N-1-napthylphthalamic acid.
[MAI] 2-4 (2 lb/gal EC)	Preemergence. Broadcast or band. Apply in 30 to 40 gallons of water per acre by ground or 5 or more gallons of water per acre by air within 48 hours of planting soybeans and before weed emergence. Use the lower dosage on light soils and the higher dosage on black soils with extremely high organic matter. Formulated with sodium N-1-naphthylphthalamate.
[MAI] 1.5-2.5 (2 lb/gal EC)	Preemergence. Broadcast. Apply in 20 to 40 gallons of water per acre. Tank mix with alachlor. Formulated with sodium N-1-naphthylphthalamate.

ISOPROPYL N-(3-CHLOROPHENYL)CARBAMATE

	Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
/13024AA	Spinach (fall seeded)	0.3 (I) ppm 30 day preharvest interval. General Information: Not recommended for use in CA. Do not apply when air temperature is above 75 F (23.9 C).
	1-2 (4 lb/gal EC)	Preemergence. Broadcast or band. Apply in 40 gallons of water per acre after planting. Use the lower dosage when air temperature is below 60 F (15.5 C) and the higher dosage when air temperature is above 60 F (15.5 C).
	[SLN] 2 (4 lb/gal EC)	SLN - Use limited to AR and OK. Postemergence. Broadcast or band. For control of bittercress, chickweed, henbit, and sibara. Apply in 20 to 40 gallons of water per acre, between November 1 and February 15, when spinach plant has 6 to 8 leaves.
	[SLN] 1-2 (4 lb/gal EC)	SLN - Use limited to MD and VA. Postemergence. Broadcast or band. Apply in 20 to 40 gallons of water per acre, between November 1 and February 1, when spinach plant has 6 to 8 leaves. Use the lower dosage on coarse-textured soils and the higher dosage on all other soil textures.
/28020AA	Sugar Beets	0.1 (I) (beets, sugar, roots) 0.3 (I) (beets, sugar, tops) General Information: Irrigate within 7 days of application. Use the lower dosage on coarse-textured soils and the higher dosage on fine-textured soils.
	4 (4 lb/gal EC)	Use limited to Imperial Valley, CA. Postemergence. Broadcast or band. For control of grain (volunteer) and winter annual grasses. Apply in 10 to 40 gallons of water per acre when sugar beet plants have 2 to 6-true leaves.
	[SLN] 3-4 (4 lb/gal EC)	SLN - Use limited to Imperial Valley, CA. Postemergence. Apply into the irrigation water system during the entire irrigation period when sugar beet plants have at least 8-true leaves. Do not use runoff water for domestic purposes or to irrigate other crops.

	Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
	Sugar Beets (continued)	
	[SLN] 4 (4 lb/gal EC)	SLN - Use limited to CA. Broadcast to winter fallow beds to be spring planted with sugar beets. Apply in 20 to 40 gallons of water per acre by ground or 10 gallons of water per acre by air in late fall after bed-up. Do not plant sugar beets within 80 days of application.
/28020BA	Sugar Beets (seed crop)	0.1 (I) (beets, sugar, roots) 0.3 (I) (beets, sugar, tops) General Information: Use the higher dosage when heavier infestation or more mature weed growth is present. Do not apply to fields saturated from recent rainfall or to sugar beet plants under stress from insect, disease, or other environmental factors. Irrigate after application.
	[SLN] 3-4 (4 lb/gal EC)	SLN - Use limited to OR. Postemergence. Broadcast. For control of chickweed and winter annual weeds. Apply in 10 or more gallons of water per acre when sugar beet plants have 8 or more true leaves.
/11005AA	Tomato	0.1 (I) ppm General Information: Irrigate within 5 days of application.
	4 (4 lb/gal EC)	Postemergence. Directed spray to the base of tomato plants. Apply in 20 to 40 gallons of water per acre when crop is well established. Avoid wetting plant foliage.
	[SLN] 4 (4 lb/gal EC)	SLN - Use limited to CA. Broadcast to winter fallow beds to be spring planted with tomatoes. Apply in 20 to 40 gallons of water per acre by ground or 10 gallons of water per acre by air in late fall after bed-up. Do not plant tomatoes within 80 days of application.

	Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
	Tomato (continued)	
	(plug-planted tomatoes) [SLN] 2-4 (4 lb/gal EC)	SLN - Use limited to CA. Preplant. Broadcast or band to tomatoes seeded in plugs of an artificial growing mix containing 60 ml to 120 ml of a 50:50 mixture of peat and vermiculite and at least 5 percent volume activated charcoal. Apply in 20 to 60 gallons of water per acre to the bed tops prior to planting.
	Trefoil	See Ladino Clover cluster.
	White Clover	See Ladino Clover cluster.
	TERRESTRIAL NONFOOD CROP	
	(Agricultural Crops)	
/26006AA	Tobacco, Flue-Cured	N.F. General Information: Do not apply if rain is expected within 4 hours of application. Do not use on tobacco grown for seed. Do not tank mix with other sucker control agents. Applications to immature plants may result in leaf distortion on the upper portion of the plant. Do not apply to severely wilted, drought stricken, or water logged tobacco. Apply in the mornings and on cloudy days when tobacco is actively growing and soil moisture is ample. Make application following the use of one or more contact agents (fatty alcohol) plus a systemic agent (such as potassium salt of maleic hydrazide) application. Do not apply in less than 40 gallons of water per acre.
	1.0-1.5 (1 lb/gal EC)	Postemergence. Broadcast. Plant regulator (prevent sucker development). Apply in 40 to 50 gallons of water per acre 5 to 7 days after the systemic agent is applied. This dosage applies to fields with a plant population of 5,000 to 7,000.

EPA Compendium of Acceptable Uses

ISOPROPYL N-(3-CHLOROPHENYL)CARBAMATE

	Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
	(Ornamental Plants and Forest Trees)	
/31013DA	Ageratum	
/31017DA	Alyssum	General Information: Do not use over 4 pounds active ingredient per acre on alyssum, pansies, petunias or salvia. Use the higher dosage on medium/fine-textured soils.
/31034DA	Begonia	
/31065DA	Chrysanthemum	
/31071DA	Coleus	
/31087DA	Dianthus	
/31106DA	Garden Balsam	
/31108DA	Geranium	
/31137DA	Marigold	
/31149DA	Pansies	
/31154DA	Petunias	
/31171DA	Salvia	
/31184DA	Snapdragon	
/31213DA	Zinnia	
	4-6 (20% G)	Posttransplant. Broadcast to established transplants.
/35021DA	Arborvitae	
/34022DA	Azalea	General Information: Do not apply to nursery stock that is to be transplanted within 30 days of treatment. Use the higher dosage on medium/fine-textured soils.
/35026DA	Balsam Fir	
/34025DA	Barberry	
/35028DA	Birch	
/34031DA	Boxwood	
/34036DA	Camellia	
/35037DA	Cedar	
/35055DA	Cherry (ornamental)	
/34045DA	Cotoneaster	
/35056DA	Crabapple (ornamental)	
/35043DA	Dogwood	
/34255DA	Enkianthus	
/34053DA	Euonymus	
/35051DA	Fir	
/34062DA	Forsythia	
/31104DA	Fuchsia	
/34068DA	Heather	
/35068DA	Hemlock	
/34070DA	Holly	
/34072DA	Honeysuckle	
/34073DA	Hydrangea	
/35073DA	Juniper	
/34215DA	Laurel	
/34087DA	Leucothoe	
/34088DA	Ligustrum	
/34089DA	Lilac	
/35077DA	Locust	
/35082DA	Magnolia	

	Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
	Arborvitae cluster (continued)	
/34090DA	Mahonia	
/35083DA	Maple	
/34094DA	Mock-Orange	
/34111DA	Pieris	
/35098DA	Pine	
/35060DA	Plum (ornamental)	
/35101DA	Poplar	
/34555DA	Rhododendron	
/34120DA	Rose	
/34130DA	Spirea	
/35116DA	Spruce	
/35119DA	Sycamore	
/34137DA	Viburnum	
/35130DA	Yew	
/32001DA		
	4-8 (20% G) (4 lb/gal EC)	Dormant application to established trees and shrubs. Broadcast or directed spray. Apply in late fall through early spring before new plant growth starts. May be applied in 40 gallons of water per acre.
/31026AA	Aster	
/31027AA	Astilbe	General Information: Use the higher dosage on medium/fine-textured soils.
/31402AA	Bluebell	
/31057AA	Carnation	
/31074AA	Coral Bells	
/31072AA	Columbine	
/35160AA	Creeping Juniper	
/33030AA	English Ivy	
/31101AA	Forget-Me-Not	
/31129AA	Larkspur	
/33044AA	Myrtle	
/33041AA	Pachysandra	
/31151AA	Peonies	
/34226AA	Wintercreeper	
	4-6 (20% G)	Dormant application to established plantings. Broadcast. Apply in the spring before plant growth begins.
/31083AA	Daffodils (bulbs)	
/31084AA	Dahlias (bulbs)	General Information: Use the higher dosage on medium/fine-textured soils.
/31382AA	Dutch Iris (bulbs)	
/31111AA	Gladiolus (bulbs)	
	4-6 (20% G)	At planting or prior to crop and weed emergence. Broadcast.

	Site, Dosage and Formulation (lb a.i./A)	Tolerance, Use, Limitations
/31093AA	Easter Lilies	
		General Information: Some yellowing may occur and stem elongation will be retarded.
	[SLN] 4 (1, 4 lb/gal EC)	SLN - Use limited to OR. Postemergence. Broadcast. Plant regulator (flower bud abscission). Apply in 300 gallons of water per acre, directly to tops of lilies, when lily buds are one-eighth to one-half inch long.
/31126AA	Iris	
	[SLN] 1 (4 lb/gal EC)	SLN - Use limited to Santa Cruz County, CA. Preemegence. Broadcast. For control of mallow. Apply in 20 to 100 gallons of water per acre after planting but no later than 14 days before emergence of bulbs.
/35062AA	Ginkgo	
		General Information: Do not apply when temperatures are above 80 F (26.6 C).
	[SLN] 2 lb a.i./100 gallons of water (4 lb/gal EC)	SLN - Use limited to DC. Postemergence. Plant regulator (fruit inhibitor). Apply within 3 weeks following pollenation (third week in April). Spray with a mist blower to the near dripping point.
/31131AA /31142AA /31205AA	Lilies (bulbs) Narcissus (bulbs) Tulips (bulbs)	General Information: Use the higher dosage on medium/fine-textured soils.
	4-6 (20% G)	At planting or prior to crop and weed emergence. Broadcast.
	[SLN] 4 (4 lb/gal EC)	SLN - Use limited to WA. Preemergence. Broadcast. For control of winter annual weeds. Apply in 30 to 60 gallons of water per acre after planting and final hilling but no later than 2 weeks before bulb emergence. Apply in late September through October when soil surface is moist but before soil becomes water-logged.

	Site. Dosage and Formulation (lb a.i./A)	Tolerance. Use. Limitations
	Lilies (bulbs) cluster	(continued)
		Tank mix with dinoseb, triethanolamine salt or dinoseb, alkanolamine salts or dinoseb, diethanolamine salt.
	[SLN] 2 (4 lb/gal EC)	SLN - Use limited to WA. Postemergence. Broadcast. For control of summer annual weeds. Apply in 30 to 60 gallons of water per acre in the early spring before weed seed germination. Do not apply later than April 15.
/32001DA	Ornamental Woody Plants	
		Refer to Arborvitae cluster for dose and use information.

AERIAL AND TANK MIX APPLICATIONS

9001500 AAAAAAA	Aerial Application	
	--	Refer to
		TERRESTRIAL FOOD CROP (Agricultural Crops) Alfalfa, Alfalfa (seed crop), Soybean, Sugar Beets, Tomato
9900300 AAAAAAA	Tank Mix	
	--	Refer to
		TERRESTRIAL FOOD CROP (Agricultural Crops) Alfalfa, Alfalfa (seed crop), Soybean
		TERRESTRIAL NONFOOD CROP (Ornamental Plants and Forest Trees) Lilies (bulbs), Narcissus (bulbs), Tulip (bulbs)

ISOPROPYL N-(3-CHLOROPHENYL)CARBAMATE

Listing of Registered Pesticide Products by Formulation

&098.0001 98% technical chemical
isopropyl N-(3-chlorophenyl)carbamate (018301)
002749-00102 002749-00117

&005.0004 5% granular
isopropyl N-(3-chlorophenyl)carbamate (018301) plus sodium N-1-napthylphthalamic acid (030703)
000400-00065

&010.3004 10.3% granular
isopropyl N-(3-chlorophenyl)carbamate (018301) plus sodium N-1-napthylphthalamic acid (030703)
000400-00087

&020.0004 20% granular
isopropyl N-(3-chlorophenyl)carbamate (018301)
000748-00163

(000748-00163) CA810064 UT810030

&211.9012 11.9% (1 lb/gal) emulsifiable concentrate
isopropyl N-(3-chlorophenyl)carbamate (018301)
000748-00233

(000748-00233) OR850001

&215.0012 15% (1.33 lb/gal) emulsifiable concentrate
isopropyl N-(3-chlorophenyl)carbamate (018301) plus sodium N-1-napthylphthalamic acid (030703)
000400-00071

&222.2012 22.2% (2 lb/gal) emulsifiable concentrate
isopropyl N-(3-chlorophenyl)carbamate (018301)
000400-00085

&225.0012 25% emulsifiable concentrate
isopropyl N-(3-chlorophenyl)carbamate (018301)
002792-00040

&236.0012 36% (3 lb/gal) emulsifiable concentrate
isopropyl N-(3-chlorophenyl)carbamate (018301)
000748-00182 002749-00070

&247.0012 47% (4 lb/gal) emulsifiable concentrate
isopropyl N-(3-chlorophenyl)carbamate (018301)
000748-00161

(000748-00161) AR780025 AZ800030 CA780103 CA780197
CA790007 CA790054 CA860046 DC800001
KY780006 MD780017 OK780024 OR840042
OR850001 VA780027 WA790012

Listing of Registered Pesticide Products by Formulation (continued)

&246.0016 46% (4 lb/gal) liquid-ready to use
isopropyl N-(3-chlorophenyl)carbamate (018301)
000748-00178

(000748-00178) ID810005 ND810023 OR810020 WA800086

&246.5016 46.5% (4 lb/gal) liquid-ready to use
isopropyl N-(3-chlorophenyl)carbamate (018301)
002749-00264

(002749-00264) ND820021 OR850047 WA820065

&249.6516 49.65% (4.3 lb/gal) liquid-ready to use
isopropyl N-(3-chlorophenyl)carbamate (018301)
002792-00041

&278.4116 78.4% (7 lb/gal) liquid-ready to use
isopropyl N-(3-chlorophenyl)carbamate (018301)
ND850009

&278.5016 78.5% (7 lb/gal) liquid-ready to use
isopropyl N-(3-chlorophenyl)carbamate (018301)
000748-00234

(000748-00234) ID830003 OR830001

9999999 State Label Registrations

CA Reg. No.
000748-06008 000748-10560

ID Reg. No.
000748-06007

NJ Reg. No.
000400-06436

NY Reg. No.
038655-10432 038655-10447

OR Reg. No.
000748-06009

TX Reg. No.
000478-06005

WA Reg. No.
000748-06006

Listing of Registered Pesticide Products by Formulation (continued)

WI Reg. No.
000400-06500

ISOPROPYL N-(3-CHLOROPHENYL)CARBAMATE

Appendix A-1

Listing of Active Ingredient(s) Found in Combination with the Report Chemical

Chemical Code	Common Name (source)	EPA Acceptable Common/Chemical Name
030703	sodium N-1-naphthylphthalamate	--

-- Use Common Name

ISOPROPYL N-(3-CHLOROPHENYL)CARBAMATE

Appendix A-2

Listing of Active Ingredient(s) Which May Be Included in Tank Mixes

Chemical Code	Common Name (source)	EPA Acceptable Common/Chemical Name
090501	alachlor	--
056801	carbaryl	--
037511	dinoseb, alkanolamine salt	dinoseb, alkanolamine salts of the ethanol and isopropanol series
037514	dinoseb, diethanolamine salt	--
037506	dinoseb, triethanolamine salt	--
106601	profluralin	--
041404	vernam	S-propyl dipropylthiocarbamate
036101	trifluralin	--

-- Use Common Name

APPENDIX IV

BIBLIOGRAPHY

GUIDE TO USE OF THIS BIBLIOGRAPHY

1. CONTENT OF BIBLIOGRAPHY. This bibliography contains citations of all studies considered relevant by EPA in arriving at the positions and conclusions stated elsewhere in the Standard. Primary sources for studies in this bibliography have been the body of data submitted to EPA and its predecessor agencies in support of past regulatory decisions. Selections from other sources including the published literature, in those instances where they have been considered, will be included.

2. UNITS OF ENTRY. The unit of entry in this bibliography is called a "study." In the case of published materials, this corresponds closely to an article. In the case of unpublished materials submitted to the Agency, the Agency has sought to identify documents at a level parallel to the published article from within the typically larger volumes in which they were submitted. The resulting "studies" generally have a distinct title (or at least a single subject), can stand alone for purposes of review, and can be described with a conventional bibliographic citation. The Agency has attempted also to unite basic documents and commentaries upon them, treating them as a single study.

3. IDENTIFICATION OF ENTRIES. The entries in this bibliography are sorted numerically by "Master Record Identifier," or MRID, number. This number is unique to the citation, and should be used at any time specific reference is required. It is not related to the six-digit "Accession Number" which has been used to identify volumes of submitted studies; see paragraph 4(d)(4) below for a further explanation. In a few cases, entries added to the bibliography late in the review may be preceded by a nine-character temporary identifier. These entries are listed after all MRID entries. This temporary identifier number is also to be used whenever specific reference is needed.

4. FORM OF ENTRY. In addition to the Master Record Identifier (MRID), each entry consists of a citation containing standard elements followed, in the case of material submitted to EPA, by a description of the earliest known submission. Bibliographic conventions used reflect the standards of the American National Standards Institute (ANSI), expanded to provide for certain special needs.

a. Author. Whenever the Agency could confidently identify one, the Agency has chosen to show a personal author. When no individual was identified, the Agency has shown an identifiable laboratory or testing facility as author. As a last resort, the Agency has shown the first submitter as author.

b. Document Date. When the date appears as four digits with no question marks, the Agency took it directly from the document. When a four-digit date is followed by a question mark, the bibliographer deduced the date from evidence in the document. When the date appears as (19??), the Agency was unable to determine or estimate the date of the document.

c. Title. In some cases, it has been necessary for Agency bibliographers to create or enhance a document title. Any such editorial insertions are contained between square brackets.

d. Trailing Parentheses. For studies submitted to the Agency in the past, the trailing parentheses include (in addition to any self-explanatory text) the following elements describing the earliest known submission:

   (1) Submission Date. The date of the earliest known submission appears immediately following the word "received."

   (2) Administrative Number. The next element, immediately following the word "under," is the registration number, experimental use permit number, petition number, or other administrative number associated with the earliest known submission.

   (3) Submitter. The third element is the submitter, following the phrase "submitted by." When authorship is defaulted to the submitter, this element is omitted.

   (4) Volume Identification (Accession Numbers). The final element in the trailing parentheses identifies the EPA accession number of the volume in which the original submission of the study appears. The six-digit accession number follows the symbol "CDL," standing for "Company Data Library." This accession number is in turn followed by an alphabetic suffix which shows the relative position of the study within the volume. For example, within accession number 123456, the first study would be 123456-A; the second, 123456-B; the 26th, 123456-Z; and the 27th, 123456-AA.

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under the Chloropropham Standard

MRID	CITATION
00018842	Atkins, E.L., Jr.; Anderson, L.D.; Greywood, E.A. (1969) Effect of Pesticides on Apiculture: Project No. 1499; Research Report CF-7501. (Unpublished study received May 8, 1971 under 1F1174; prepared by Univ. of California--Riverside, Dept. of Entomology, submitted by Ciba Agrochemical Co., Summit, N.J.; CDL:090973-B)
00030995	Lane, J.R. (1974) Residue Summary. (Unpublished study received Mar 20, 1974 under 400-85; prepared in cooperation with State Univ. of New York--Oswego, Lake Ontario Environmental Laboratory, submitted by Uniroyal Chemical, Bethany, Conn.; CDL:023356-B)
00035475	Dahmer, L. (1973) Liquid Scintillation Analysis of Bligh-Dyer and Soxhlet Fractions from Extractions of 14C-CIPC-Treated Soybean Plants and Seeds Grown at Fargo, North Dakota, Spring/Summer, 1972: Research Report No. BR-18625. Method dated Jun 12, 1973. (Unpublished study received on unknown date under 4F1429; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:093808-F)
00035480	Ecke, G.G.; Ferguson, C.E.; Mitten, M.E.; et al. (1973) Agricultural Chemicals: CCLXXXVII: Qualitative Investigation of CIPC Metabolites in Soybean Shoots: Research Report No. BR-18605. (Unpublished study received on unknown date under 4F1429; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:093808-K)
00035485	Gard, L.N.; Dahmer, L.; Wiedmann, J.L.; et al. (1973) Analysis of 14C-CIPC Treated Soybean Plants for 2- and 4-Hydroxy CIPC: First and Second Scheduled Samples Grown at Fargo, North Dakota (1972): Research Report No. BTS-18580. Methods dated May 18, 1973. (Unpublished study received on unknown date under 4F1429; submitted by PPG Industries, Inc., Barberton, Ohio; CDL: 093808-P)
00035488	Krochta, W.G. (1973) A Review of the Studies To Account for the Distribution of Radioactive Carbon in Natural Products from Soybeans Grown in 14C-CIPC Treated Soils: Research Report No. BR-18649. (Unpublished study received on unknown date under 4F1429; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:093808-S)
00035489	Mitten, M.E.; Wiedman, J.L. (1973) An Investigation of the Nature and Distribution of Radioactivity in Soybean Oil Obtained from Soybeans Grown in Soil Treated with 14C Ring Labeled Isopropyl-N-(3-chlorophenyl)carbamate at Fargo, North Dakota, 1972: Research Report No. BR-18591. Method dated May 29, 1973. (Unpublished study received on unknown date under 4F1429; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:093808-T)

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under the Chloropropham Standard

MRID CITATION

00035490 Parker, J.R. (1973) The Presence of 14C in Amino Acids from Fargo Soybean Seeds: Amino Acid Group Separation Using a Dowex 50W-X8 Strong Acid Ion Exchange Column: Research Report No. BR-18600. (Unpublished study received on unknown date under 4F1429; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:093808-U)

00035496 Strang, R.H. (1973) Agricultural Chemicals: CCLVII: Procedure for the Growing, Sampling, and Shipping of Soybean Plants Grown in 14C-CIPC at Boyce Thompson for CIPC Plant Metabolite Analysis: Research Report No. BAR-18470. (Unpublished study received on unknown date under 4F1429; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:093808-AA)

00035497 Strang, R.H.; Kish, D. (1973) Agricultural Chemicals: CCLII: Procedures Used for the Growing of Turnips, Soybeans and Orchardgrass in the Presence of 14C-CIPC at Barberton: Research Report No. BR-18455. (Unpublished study including letter dated Jan 25, 1973 from R.H. Strang to D.C. Torgeson, received on unknown date under 4F1429; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:093808-AB)

00035498 Strang, R.H.; Kish, D. (1973) Agricultural Chemicals: CCLXXXVIII: Procedure for the Growing of Soybean Plants Hydroponically in the Presence of 14C-CIPC: Research Report No. BAR-18606. (Unpublished study received on unknown date under 4F1429; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:093808-AC)

00035505 Wiedmann, J.L. (1973) The Presence of 14C in Amino Acids from Fargo Soybean Seeds: Separation of Glutamic and Aspartic acids from Other Amino acids: Research Report No. BR-18634. Method dated Jun 15, 1973. (Unpublished study received on unknown date under 4F1429; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:093808-AJ)

00035896 Wiedmann, J.L.; Pensyl, J. (1975) Proposed Regulatory Method for CIPC Residue (CIPC + Metabolite III): BR 19718. Method dated May 2, 1975. (Unpublished study received May 8, 1975 under 4F1429; submitted by PPG Industries, Inc., Barberton, Ohio; CDL: 093811-D)

00035995 Smith, K.S. (1976) Report: Catfish Tissue Residue Levels following Exposure to 14C-CIPC: Laboratory No. 5E-8033. (Unpublished study received Sep 21, 1976 under 748-161; prepared by Cannon Laboratories, Inc., submitted by PPG Industries, Inc., Barberton, Ohio; CDL:095292-C)

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under the Chloropropham Standard

MRID	CITATION
00035997	Ecke, G.G. (1976) Qualitative Investigation of CIPC Metabolites in Bluegill Sunfish: Final Report: BR 20315A. (Unpublished study received Sep 21, 1976 under 748-161; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:095292-E)
00035998	Smith, K.S. (1976) Report: Bluegill Sunfish Tissue Residue Levels following Exposure to 14C-CIPC: Laboratory No. 6E-1100A. (Unpublished study received Sep 21, 1976 under 748-161; prepared by Cannon Laboratories, Inc., submitted by PPG Industries, Inc., Barberton, Ohio; CDL:095292-F)
00036377	Dahmer, L.; Coffman, D.; Wiedmann, J.; et al. (1973) Liquid Scintillation Analysis of 14C-CIPC-Treated Soybean Plants and Seeds Grown at Fargo, North Dakota, Spring/Summer, 1972: Research Report No. BR-18288. Method dated Dec 29, 1972. (Unpublished study including research report no. BAR-18127, received on unknown date under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092174-D)
00036382	Ferguson, C.E.; Gard, L. (1971) Analysis of Soybean Plant Samples for CIPC Residue: Sample Grown in Soil Treated with Tank Mixtures of CIPC and Treflan at 7 Locations in Iowa: 1971 Crop: Research Report No. BTS-17390. (Unpublished study received on Oct 12, 1972 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092174-I)
00036385	Ferguson, C.E.; Gard, L. (1972) Re-confirmation of the Analytical Method for Determining CIPC Residues in Soybean Plants: Minor Editorial Revision and Up-dating of the Colorimetric Analytical Procedure: Research Report No. BTS-17989. Includes method dated Jul 24, 1972. (Unpublished study received Oct 12, 1972 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092174-L)
00036390	Gard, L.; Holmes, S.; Ferguson, C.E. (1972) Analysis of Ladino Clover (Seed Crop) for CIPC Residues: Research Report No. BTS-18082. (Unpublished study received Oct 12, 1972 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092174-Q)
00036392	Gard, L.; Holmes, A.S.; Ferguson, C.E. (1972) Analytical Results from Dissipation of CIPC Applied as Granular Formulations of Furloe on Ladino Clover: Research Report No. BTS-18169. (Unpublished study received on unknown date under 2F1216; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092174-S)

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under the Chloropropham Standard

MRID	CITATION
00036394	Hardies, D.E. (1973) Agricultural Chemicals. CCXXXIII. Procedure for Growing, Sampling and Shipping of Turnips Grown in the Presence of 14C CIPC. A Protocol submitted to Boyce Thompson for CIPC Metabolite Study: Research Report No. BAR-18316. (Unpublished study received on unknown date under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092174-U)
00036395	Hardies, D.E. (1973) Agricultural Chemicals. CCXXIV. Procedure for Growing, Sampling and Shipping of Orchardgrass Grown in the Presence of 14C CIPC. A Protocol Submitted to Boyce Thompson for CIPC Metabolite Study: Research Report No. BAR-18317. (Unpublished study received on unknown date under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092174-V)
00036626	Pensyl, J. (1973) A Gas Chromatographic Method for the Determination of 1-Hydroxy-2-propyl-3'-chlorocarbanilate in Soybean Plants and Seeds: Research Report No. BR-18717. Method dated Jul 27, 1973. (Unpublished study received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL: 092175-V)
00036628	Still, G.G.; Mansager, E.R. (1973) Soybean shoot metabolism of Isopropyl-3-chlorocarbanilate: Ortho and para aryl hydroxylation. Pesticide Biochemistry and Physiology 3(1):87-95. (Also in unpublished submission received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092175-Y)
00036629	Still, G.G.; Mansager, E.R. (1973) Metabolism of Isopropyl-3-chlorocarbanilate by cucumber plants. Journal of Agricultural and Food Chemistry 21(5):787-791. (Also in unpublished submission received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092175-Z)
00036630	Strang, R.H. (1973) Agricultural Chemicals. CCLXXII. Report on the Growing, Sampling and Shipping of Turnips and Orchardgrass Grown in 14C-CIPC Treated Soil at Boyce Thompson for CIPC Metabolite Study: Research Report No. BAR-18528. (Unpublished study received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc, Barberton, Ohio; CDL:092175-AA)
00036632	Strang, R.H.; Kish, D. (1973) Agricultural Chemicals; CCCXXXIX; Procedure for the Growing of Turnip and Orchardgrass Plants Hydroponically in the Presence of 14C-CIPC: Research Report BAR-18936. (Unpublished study received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc.; Barberton, Ohio; CDL: 092175-AC)

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under the Chloropropham Standard

MRID CITATION

00036635 Wiedmann, J.L. (1973) Thin Layer Chromatograph-Autoradiogram Evaluation of the Polar Phase Soluble Metabolites of 14C-CIPC Treated Soybean Hay and Seeds Grown at Fargo, North Dakota in 1972: Research Report No. BR-18880. Method dated Oct 26, 1973. (Unpublished study received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092175-AF)

00036636 Wiedmann, J.L.; Mitten, M.E.; Pensyl, J.W. (1973) Tentative Regulatory Methods for Separating and Determining CIPC and Its Metabolites in Turnip Roots: Research Report No. BR-18920. Methods dated Nov 12, 1973. (Unpublished study received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092175-AH)

00036637 Wiedmann, J.L.; Mitten, M.E.; Pensyl, J.W. (1973) Tentative Regulatory Methods for Separating and Determining CIPC and Its Metabolites in Turnip Tops: Research Report No. BR-18931. Methods dated Nov 29, 1973. (Unpublished study received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092175-AI)

00036638 Wiedmann, J.L.; Mitten, M.E.; Pensyl, J.W. (1973) Preliminary Determination of CIPC and Metabolites I, II, III, and IV in Turnip Roots Grown in the Presence of 14C-CIPC at Boyce-Thompson in 1973: Research Report No. BR-18942. (Unpublished study received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092175-AJ)

00036639 Wiedmann, J.L.; Mitten, M.E.; Pensyl, J.W. (1973) Preliminary Determination of CIPC and Metabolites I, II, III, and IV in Turnip Tops Grown in 14C-CIPC Treated Soil at Boyce-Thompson during 1973: Research Report No. BR-18943. (Unpublished study received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092175-AK)

00036640 Wiedmann, J.L.; Mitten, M.E.; Pensyl, J.W. (1973) Preliminary Determination of CIPC and Metabolites I, II, III, and IV in Orchard Grass Grown in 14C-CIPC Treated Soil at Boyce-Thompson during 1973: Research Report No. BR-18957. (Unpublished study received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092175-AL)

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under the Chloropropham Standard

MRID	CITATION
00036641	Wiedmann, J.L.; Mitten, M.E.; Pensyl, J.W. (1973) Tentative Regulatory Methods for Separating and Determining CIPC and Its Metabolites in Orchard Grass: Research Report No. BR-18946. Methods dated Dec 7, 1973. (Unpublished study received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092175-AM)
00036642	Wiedmann, J.L.; Mitten, M.E.; [illegible]nsyl, J.; et al. (1973) Analysis of 1973 Crop Soybean Plant Samples for CIPC, 2-Hydroxy-5-chloroisopropyl carbanilate, 4-Hydroxy-3-chloroisopropyl carbanilate, and 1-Hydroxy-2-isopropyl-3'-chlorocarbanilate: BTS 18967. (Unpublished study received Jan.4, 1974 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092175-AN)
00036644	Wiedmann, J.L.; Krochta, W.G. (1973) Determination of CIPC and Its Metabolites in Soybeans at Fargo, North Dakota during 1972: Research Report No. BR-18756. (Unpublished study received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092175-AG)
00037029	Ware, G.W.; Brakel, W.J. (1963) Excretion of 3-Cl-aniline and Isopropyl-N-(3-Chlorophenyl) carbamate (CIPC) in the milk and urine of dairy cows fed CIPC. Journal of Dairy Science XLVI(2): 120-123. (Also in unpublished submission received on unknown date under 4F1429; submitted by Pittsburgh Plate Glass Co., Morristown, N.J.; CDL:093807-P)
00037031	Gard, L.; Ferguson, C.E. (1972) A Stability Evaluation of CIPC Residue in Treated Soybean Plants and Ladino Clover Resulting from Periods of Frozen Storage: Research Report No. BTS-18024. (Unpublished study received on unknown date under 4F1429; submitted by Pittsburgh Plate Glass Co., Morristown, N.J.; CDL: 093807-R)
00037032	Gard, L.; Wiedmann, J.; Mitten, M.E.; et al. (1973) Tentative Regulatory Analytical Methods for Separating and Determining CIPC and Major Metabolites in Soybean Plants and Soybean Seeds: Research Report No. BR-18599. Methods dated Jun 4, 1973. (Unpublished study received on unknown date under 4F1429; submitted by Pittsburgh Plate Glass Co., Morristown, N.J.; CDL: 093807-S)

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting
Registrations Under the Chloropropham Standard

MRID	CITATION
00037033	Pensyl, J.; Mitten, M.E.; Wiedmann, J.; et al. (1973) A Gas Chromatographic Method for the Determination of 1-Hydroxy-2-propyl 3'-chlorocarbanilate (III) and Isopropyl 3-chloro-2-hydroxycarbanilate (IV) in Soybean Plants and Seeds: Research Report No. BR-18657. Method dated Jun 29, 1973. (Unpublished study received on unknown date under 4F1429; submitted by Pittsburgh Plate Glass Co., Morristown, N.J.; CDL:093807-T)
00037034	Pittsburgh Plate Glass Company (19??) Determination of CIPC Residue in Soybean Seeds: Hydrolysis/Distillation/Extraction Colorimetric Method: Research Report No. BTS 17689. (Unpublished study received on unknown date under 4F1429; CDL:093807-U)
00037035	Wiedmann, J.L. (1973) Analysis of Soybean Shoot Dissipation Study Samples for CIPC Residue and Metabolites (Isopropyl 5-chloro-2-hydroxycarbanilate, Isopropyl 3-chloro-4-hydroxycarbanilate, 1-hydroxy-2-propyl,3'-chlorocarbanilate): Research Report No. BTS-18626. (Unpublished study received on unknown date under 4F1429; submitted by Pittsburgh Plate Glass Co., Morristown, N.J.; CDL:093807-V)
00037037	Pittsburgh Plate Glass Company (19??) Analytical Method: Determination of CIPC Residue in Soybean Plants: (Hydrolysis/Distillation/Extraction Colorimetric Procedure): Research Report No. BTS-16803. Undated method. (Excerpt; unpublished study received on unknown date under 4F1429; CDL:093807-Y)
00037038	Wiedmann, J.L. (1973) Analysis of Soybean Seed Samples for CIPC Residue and Metabolites (2-OH-CIPC, 4-OH-CIPC, 1-OH-2-propyl 3'chlorocarbanilate: Research Report No. BTS-18613. (Unpublished study received on unknown date under 4F1429; submitted by Pittsburgh Plate Glass Co., Morristown, N.J.; CDL:093807-Z)
00037042	Ferguson, C.E.; Holmes, A.S.; Gard, L. (1973) Analysis of Soybean Seed Samples for CIPC Residue by the Colorimetric Method: Research Report No. BR-18466. (Unpublished study received on unknown date under 4F1429; submitted by Pittsburgh Plate Glass Co., Morristown, N.J.; CDL:093807-AD)
00037043	Ferguson, C.E.; Holmes, A.S.; Gard, L. (1973) Analysis of Soybean Seed Samples for CIPC Residue by the Colorimetric Method: Research Report No. BR-18467. (Unpublished study received on unknown date under 4F1429; submitted by Pittsburgh Plate Glass Co., Morristown, N.J.; CDL:093807-AE)

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under the Chloropropham Standard

MRID	CITATION
00037045	Weidmann, J.L.; Mitten, M.E.; Pensyl, J.; et al. (1973) CIPC Residue and Metabolite Assay of Two Soybean Seed Samples and of the Seed Fractions Separated from These Samples at the Oilseed Crops Laboratory, Peoria, Ill.: Research Report No. BR-18708. (Unpublished study received on unknown date under 4F1429; submitted by Pittsburgh Plate Glass Co., Morristown, N.J.; CDL: 098307-AH)
00037046	Mitten, M.E. (1973) A Gas Chromatographic Method for the Determination of CIPC in Soybean Seeds: Research Report No. BR-18747. (Unpublished study received on unknown date under 4F1429; submitted by Pittsburgh Plate Glass Co., Morristown, N.J.; CDL: 093807-AI)
00037285	Wiedmann, J.L.; Mattle, D.M.; Chandler, C.M.; et al. (1976) CIPC and PPG-124 Residues in Yuchi Arrowleaf Clover, 1976 Crop: BTS 20352. (Unpublished study received Sep 21, 1976 under 748-161; submitted by PPG Industries, Inc., Barberton, Ohio; CDL: 095292-AG)
00037860	Ecke, G.G. (1973) Agricultural Chemicals. CCXL and CCCL: CIPC Metabolites in Turnips: Research Report No. BR-18407. (Unpublished study received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092175-M)
00037861	Ecke, G.G. (1973) Synthesis of glucosides of Isopropyl 3-chlorocarbanilate metabolites. Journal of Agricultural and Food Chemistry 21(5):792-794. (Also in unpublished submission received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092175-N)
00037863	Ferguson, C.E.; Holmes, A.S.; Gard, L. (1973) Analytical Method and Analysis of 14C Labeled CIPC Treated Turnip Plants and Roots for Unaltered CIPC Residue: Research Report No. BTS-18390. Method dated Feb 12, 1973. (Unpublished study received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092175-P)
00037866	Gard, L.; Holmes, S. (1973) Analysis of 14C-CIPC (Ring-Labeled) Treated Turnip Tops and Roots for Unaltered CIPC Residue by the Colorimetric Method: Research Report No. BTS-18523. (Unpublished study received Jan 4, 1974 under 2F1276; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:092175-S)

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under the Chloropropham Standard

MRID CITATION

00037881 Jensen, D.J.; Miller, P.W. (1973) Studies To Determine Possible Bound Residues of 6-Chloropicolinic acid (6-CPA) in Wheat: GH-C 655. (Unpublished study received Jun 6, 1973 under 2F1265; submitted by Dow Chemical U.S.A., Midland, Mich.; CDL:092164-P)

00039946 Ercegovich, C.D.; Witkonton, S. (1972) An improved method for the analysis of residues of Isopropyl N-(3-chlorophenyl)carbamate (Chlorpropham) in alfalfa. Journal of Agricultural and Food Chemistry 20(2):344-347. (Also in unpublished submission received Feb 24, 1977 under 748-161; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:096029-B)

00045294 PPG Industries, Incorporated (1969) General Analytical Method for Determining CIPC Residues in Crops Designated in the Summary Table as Being Analyzed by MF (Ext.). (Unpublished study received Dec 31, 1970 under 1F1119; CDL:093430-D)

00045295 PPG Industries, Incorporated (1968) General Analytical Method for Determining CIPC Residues in Crops Designated in the Summary Table as Being Analyzed by the MF (TCH-Dist) Method. (Unpublished study received Dec 31, 1970 under 1F1119; CDL:093430-E)

00051807 Ferguson, C.E. (1967) Analysis of Harvested Blackberries for Residues of the Herbicide CIPC: Research Report No. BTS-14867. (Unpublished study received on unknown date under 1F1119; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:090890-B)

00051812 Ferguson, C.E. (1968) Analysis of Dried Southern Peas for Residues of CIPC: Research Report No. BTS-15245. (Unpublished study received on unknown date under 1F1119; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:090890-G)

00051814 Ferguson, C.E. (1968) Analysis of Soybeans for Residues of CIPC: Research Report No. BTS-15132. (Unpublished study received on unknown date under 1F1119; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:090890-I)

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under the Chloropropham Standard

MRID	CITATION
00051815	Mitten, M.E.; Paullin, J. (1970) Analysis of Treated Soybean Samples from the University of Minnesota for CIPC Residue: Research Report No. BTS-16278. (Unpublished study received on unknown date under 1F1119; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:090890-J)
00051817	Ferguson, C.E.; Mitten, M.E. (1970) Analysis of Treated Soybean Samples from the University of Arkansas for CIPC Residue: Research Report No. BTS-16280. (Unpublished study received on unknown date under 1F1119; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:090890-M)
00051822	Ferguson, C.E.; Gard, L. (1970) Analysis of Lima Beans for CIPC Residue: Samples Grown in California: Research Report No. BTS-16488. (Unpublished study received on unknown date under 1F1119; submitted by PPG Industries, Inc., Barberton, Ohio; CDL: 090890-U)
00051824	Ferguson, C.E.; Holmes, A.S.; Gard, L. (1970) Analysis of Sugar Beet Tops and Roots for CIPC Residue, and Roots Only for IPC Residue: Samples Grown in California: Research Report No. BTS-16633. (Unpublished study received on unknown date under 1F1119; submitted by PPG Industries, Inc., Barberton, Ohio; CDL: 090890-W)
00051834	Ferguson, C.E.; Gard, L. (1970) Analysis of Garlic Bulbs for CIPC Residue: Research Report No. BTS-16432. (Unpublished study including letter dated Oct 21, 1970 from H. Agamalian to Warren H. Zick, received on unknown date under 1F1119; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:090890-AG)
00051838	Ferguson, C.E.; Holmes, A.S. (1969) Analysis of Tomatoes for CIPC Residues: Research Report No. BTS-16198. (Unpublished study received on unknown date under 1F1119; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:090890-AK)
00051845	Ferguson, C.E.; Miller, D.; Gard, L. (1970) Analysis of Red Clover Samples for CIPC Residue: Research Report No. BTS-16666. (Unpublished study received on unknown date under 1F1119; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:090890-AS)

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under the Chloropropham Standard

MRID	CITATION
00051851	Ferguson, C.E.; Miller, D.; Gard, L.; et al. (1970) Analysis of Alfalfa Samples for CIPC Residue: Research Report No. BTS-16657. (Unpublished study received on unknown date under 1F1119; prepared in cooperation with Univ. of California--Davis, Botany Dept. and Baker Brothers, submitted by PPG Industries, Inc., Barberton, Ohio; CDL:090890-AY)
00051852	Winterlin, W.; Archer, T.E. (1969) Determination of CIPC Residue in Alfalfa (Hydrolysis/Distillation/Extraction Colorimetric Method. (Unpublished study including ag. tox. nos. 651 and 376, received on unknown date under 1F1119; prepared in cooperation with Univ. of California--Davis, submitted by PPG Industries, Inc., Barberton, Ohio; CDL:090890-AZ)
00051853	Ferguson, C.E.; Gard, L. (1970) Analysis of Alfalfa Samples for CIPC Residue: Research Report No. BTS-16804. (Unpublished study received on unknown date under 1F1119; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:090890-BA)
00051854	Ferguson, C.E.; Miller, D.; Gard, L. (1970) Analysis of Alfalfa Samples for CIPC Residue: Research Report No. BTS-16664. (Unpublished study received on unknown date under 1F1119; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:090890-BB)
00051855	Ferguson, C.E.; Miller, D.; Gard, L. (1970) Analysis of Alfalfa Samples for CIPC Residue: Research Report No. BTS-16665. (Unpublished study received on unknown date under 1F1119; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:090890-BC)
00051856	Ferguson, C.E.; Miller, D.; Gard, L. (1970) Analytical Method and Results for CIPC Dissipation from Grasses (Tall Fescue and Orchard Grass): Barberton Report No. BTS-16776. (Unpublished study received on unknown date under 1F1119; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:090890-BD)
00051861	Ferguson, C.E. (1968) Analysis of Treated Cranberries for Residues of CIPC: Research Report No. BTS-15107. (Unpublished study received on unknown date under 1F1119; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:090890-BI)
00054669	Ware, G.W.; Brakel, W.J. (1963) Excretion of 3-Cl-aniline and Isopropyl-N-(3-chlorophenyl) carbamate (CIPC) in the milk and urine of dairy cows fed CIPC. Journal of Dairy Science 46:120-123. (Also in unpublished submission received Aug 26, 1977 under 4581-EX-30; submitted by Pennwalt Corp., Philadelphia, Pa.; CDL: 231831-L)

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under the Chloropropham Standard

MRID	CITATION
00054672	Dave, B. (1977) Residue Data of CIPC on Potatoes. (Unpublished study received Aug 26, 1977 under 4581-EX-30; submitted by Pennwalt Corp., Philadelphia, Pa.; CDL:231831-T)
00058143	Norris, J.M.; Litchfield, N.; Dunn, F.L. (1969) Progress Report on the Toxicological Studies Being Conducted on Premerge 21 Weed Killer (M-3497). (Unpublished study received Nov 21, 1969 under 264-256; prepared by Dow Chemical Co., submitted by Union Carbide Agricultural Products Co., Inc., Ambler, Pa.; CDL: 002219-B)
00058147	Raman, H.P. (1969) Tentative Method for the Determination of Amiben in Amiben-DNBP Liquid Formulations (Amchem 69-304). (Unpublished study received Nov 21, 1969 under 264-256; submitted by Union Carbide Agricultural Products Co., Inc., Ambler, Pa.; CDL: 002219-H)
00083155	Gard, L.N. (1959) Determination of isopropyl N-(3-chlorophenyl) carbamate residues in potatoes treated for sprout inhibition. Journal of Agricultural and Food Chemistry 7(5):339-341. (Also in unpublished submission received Dec 1, 1959 under PP0234; submitted by Columbia-Southern Chemical Corp., Pittsburgh, Pa.; CDL:090262-G)
00083158	Gard, L.N.; Pray, B.O.; Rudd, N.G. (1954) Residues in crops receiving pre-emergence treatment with isopropyl N-(3-chlorophenyl) carbamate. Journal of Agricultural and Food Chemistry 2(23): 1174-1176. (Also in unpublished submission received Dec 1, 1959 under PP0234; submitted by Columbia-Southern Chemical Corp., Pittsburgh, Pa.; CDL:090262-J)
00083334	PPG Industries, Incorporated (1963) Residue of CIPC on Sweetpotatoes. Includes method no. BTS-11350 dated Jun 12, 1962. (Compilation; unpublished study received Nov 21, 1965 under PP0409; CDL:090441-B)
00093915	Ross, D.B.; Roberts, N.L.; Phillips, C.N.K.; et al. (1980) The Acute Oral Toxicity (LD50) and the Neurotoxic Effects of CIPC on the Domestic Hen: PPG 4 NT/80188. (Unpublished study received Jan 25, 1982 under 748-161; prepared by Huntingdon Research Centre, England, submitted by PPG Industries, Inc., Barberton, Ohio; CDL:246648-A)

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under the Chloropropham Standard

MRID	CITATION
00093921	Rodwell, D.E.; Krabbe, R.; Werchowski, K.M. (1981) A Teratology Study in Rats with CIPC: WIL-81107. (Unpublished study received Jan 25, 1982 under 748-161; prepared by WIL Research Laboratories, Inc., submitted by PPG Industries, Inc., Barberton, Ohio; CDL:246650-A)
00094865	Pensyl, J. (1982) Characterization of CIPC Residues in Cured Tobacco Field Treated with 14C-PPG-575: BR 22524. (Unpublished study received Feb 11, 1982 under 748-233; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:246815-B)
00094866	Pensyl, J. (1982) Characterization of CIPC Residues in Smoke from Cigarettes Spiked with 14C-labelled CIPC: BR 22531. (Unpublished study received Feb 11, 1982 under 748-233; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:246815-C)
00094867	Pensyl, J. (1982) Characterization of CIPC Residues in Smoke from Cigarettes Manufactured with Carbon-14 Labeled PPG-575 Field - Treated Tobacco: BR 22542. (Unpublished study received Feb 11, 1982 under 748-233; submitted by PPG Industries, Inc., Barberton, Ohio; CDL:246815-D)
00106293	Uniroyal Chemical (1971) Alanap and Other Insecticide Residues in Cranberries and Soybeans. (Compilation; unpublished study received on unknown date under 400-85; CDL:023355-A)
00114695	Fredenburg, R. (1960) Letter sent to E. Plant dated Nov 8, 1960: Emulsifiable sprout nip: Chloro-IPC. (Unpublished study received Feb 14, 1961 under 748-182; submitted by PPG Industries, Inc., Barberton, OH; CDL:024269-B)
00114700	Kennedy, G.; Jenkins, D. (1970) Report to PPG Industries, Inc.: Distribution of CIPC in Milk and Tissues of a Lactating Cow: IBT No. J8629A. (Unpublished study received on unknown date under 1F1119; prepared by Industrial Bio-Test Laboratories, Inc., submitted by PPG Industries, Inc., Barberton, OH; CDL:090892-I)
00114701	Kennedy, G. (1970) Report to PPG Industries, Inc.: Tissue and Egg Residue Study of CIPC in White Leghorn Chickens: IBT No. J8630A. (Unpublished study received on unknown date under 1F1119; prepared by Industrial Bio-Test Laboratories, Inc., submitted by PPG Industries, Inc., Barberton, OH; CDL:090892-J)
00114710	Pittsburgh Plate Glass (1967) Study: CIPC Residue on Selected Crops. (Compilation; unpublished study received Aug 23, 1967 under 8F0690; CDL:091198-A)

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under the Chloropropham Standard

MRID	CITATION
00114715	PPG Industries, Inc. (1972) Petition of PPG Industries, Inc. Pursuant to Section 408 (d)(1) of the Federal Food, Drug and Cosmetic Act with Respect to the Pesticide Chemical Chlorpropham. (Compilation; unpublished study received Jun 1, 1972 under 2F1276; CDL:092107-A)
00114717	Anon. (1972) Determination of CIPC Residues in Soybeans. (Compilation; unpublished study received Nov 20, 1972 under 3G1311; submitted by ?; CDL:092241-A)
00114718	Columbia-Southern Chemical Corp. (1960) Analyses for Residues of CIPC and Other Chemicals in Potatoes. (Compilation; unpublished study received on unknown date under PP0234; CDL: 092511-A)
00114725	PPG Industries, Inc. (1977) Results of Tests on the Nature and Amount of Residue: PPG-124. (Compilation; unpublished study received Jun 9, 1977 under 7F1963; CDL:096152-A; 096153)
00114729	Ecke, G.; Pensyl, J. (1978) Hydrolysis of Isopropyl 3-Chlorocarbanilate (CIPC): BR 20955. (Unpublished study received Feb 3, 1978 under 748-161; submitted by PPG Industries, Inc., Barberton, OH; CDL:096789-B)
00114737	PPG Industries, Inc. (1978) PPG-124 Residues in Plants. (Compilation; unpublished study received Nov 15, 1978 under 7F1963; CDL: 097609-B)
00114739	PPG Industries, Inc. (1974) Analyses for Residues of CIPC Chemicals in Various Products. (Compilation; unpublished study received on unknown date under 4F1429; CDL:098173-A)
00114740	Pittsburgh Plate Glass Co. (1965) Analyses for Residues of CIPC: in Sweet Potatoes. (Compilation; unpublished study received on unknown date under PP0409; CDL:098548-A)
00114741	Columbia Southern Chemical Corp. (1960) Analyses for Residues of CIPC Chemicals in Potatoes. (Compilation; unpublished study received on unknown date under PP0234; CDL:098745-A)
00114743	PPG Industries, Inc. (1970) Study: CIPC Residue on Soybeans. (Compilation; unpublished study received Dec 16, 1970 under 748-161; CDL:101498-A)
00114747	PPG Industries, Inc. (1961) Analyses for Residues of CIPC in Potatoes. (Compilation; unpublished study received Mar 17, 1961 under unknown admin. no.; CDL:120933-A)

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under the Chloropropham Standard

MRID CITATION

00114748 Freed, V. (1962) Analyses for Residues of CIPC in Cranberries. (Compilation; unpublished study received Mar 2, 1962; Mar 19, 1962 under unknown admin. no.; submitted by ?; CDL:120934-A)

00114750 Food Machinery and Chemical Corp. (1956) Sprout Control in Irish Potatoes. (Unpublished study received on unknown date under unknown admin. no.; CDL:120940-A)

00114751 Gard, L. (1957?) Determination of ... (CIPC) Residues in Potatoes Treated for Sprout Inhibition. (Unpublished study received Nov 24, 1958 under unknown admin. no.; submitted by PPG Industries, Inc., Barberton, OH; CDL:120941-A)

00114777 Agchem (1978) Analyses for Residues of CIPC in Potatoes. (Compilation; unpublished study received Aug 14, 1978 under 4581-EX-30; CDL:234638-A)

00114778 PPG Industries, Inc. (1978) Analyses for Residues of Furloe Chloro IPC 4EC and Furloe Chloro IPC 10G in Soybeans. (Compilation; unpublished study received Sep 13, 1978 under 748-161; CDL:235138-A)

00114785 Agchem (1978) Residue Data of CIPC on Potatoes. (Compilation; unpublished study received Nov 21, 1978 under 4581-338; CDL: 235995-G)

00114794 PPG Industries, Inc. (1979) Analyses for Residues of Furloe 124 and Other Herbicides in Various Products. (Compilation; unpublished study received Jun 13, 1979 under 748-220; CDL:238627-A)

00114795 PPG Industries, Inc. (1979) Summary of 1978-1979 Tests Using Decco Brand CIPC-AR under EPA Permit #4581-EUP-30. (Compilation; unpublished study received Jul 18, 1979 under 4581-EX-30; CDL: 238857-A)

00115388 PPG Industries, Inc. (1967) CIPC: Residues in Milk and Other Subjects. (Compilation; unpublished study received on unknown date under 1F1120; CDL:090894-A)

00126737 Henry, C.; Dansie, D. (1983) Study of the Toxicity of CIPC Derived Residues in Tobacco Smoke Administered to Mice for 21 Days: Experiment No. I-1727.005. Final rept. (Unpublished study received Apr 11, 1983 under 748-233; prepared by Microbiological Assoc., submitted by PPG Industries, Inc., Barberton, OH; CDL:249884-A)

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARD BIBLIOGRAPHY
Citations Considered to be Part of the Data Base Supporting Registrations Under the Chloropropham Standard

MRID	CITATION
00129545	Schroeder, R.; Daly, I.; Hogan, G.; et al. (1983) A Two Generation Reproduction Study in Rats with CIPC: Project No. 81-2573. Final rept. (Unpublished study received Jul 19, 1983 under 748-161; prepared by Bio/dynamics, Inc., submitted by PPG Industries, Inc., Bareberton, OH; CDL:250764-A; 250765; 250766)
00129938	Kirby, P.; Pizzarello, R.; Rogers, A.; et al. (1983) L5178Y/TK+/- Mouse Lymphoma Mutagenesis Assay: ... Test Article CIPC, Isopropyl 3-Chlorocarbanilate: Study no. T1890.701. (Unpublished study received Jul 26, 1983 under 748-161; prepared by Microbiological Assoc., submitted by PPG Industries, Inc., Barberton, OH; CDL:250808-A)
00129940	James, P.; Billington, R.; Clark, R.; et al. (1983) A study of the Effect of CIPC on Pregancy of the Rabbit: HRC Report No. PPG 5&7/8328. (Unpublished study received Jul 26, 1983 under 748-161; prepared by Huntingdon Research Centre, Eng., submitted by PPG Industries, Inc., Barberton, OH; CDL:250809-C)
00139860	Rohm & Haas Company (1966) Determination of Microquantities of Stam F-34 in Plant Tissues. Rev. Method dated May 12, 1966. (Unpublished studY 2eceived Mar 2, 1977 under 707-EX-88; CDL: 228160-D)
05016141	Ebing, W. (1972) Routinemethode zur Duennschichtchromatographischen Identifizierung der Pestizidrueckstaende aus den Klassen der Triazine, Carbamate, Harnstoffe und Uracile Routine method for identification of pesticide residues of triazine, carbamate, urea, and uracil type compounds by thin-layer chromatography Journal of Chromatography 65(3):533-545.
40208603	PPG Industries, Inc. (1987) Acute Toxicity of Chlorpropham to Bluegill Sunfish (Lepomis macrochirus). (ABC Study No. 35418 conducted by ABC Laboratories, Inc.)
40208604	PPG Industries, Inc. (1987) Acute Toxicity of Chlorpropham (CIPC Technical) to Rainbow Trout (Salmo gairdneri). (ABC Final Report No. 35419 conducted by ABC Laboratories, Inc.)
40378101	Prendeville, G.; Eshel, Y.; James, C.; et al. (1968) Movement and metabolism of CIPC in resistant and susceptible species. Weed Science 16(4):432-435.
40378102	James, C.; Prendeville, G. (1969) Metabolism of chlorpropham (Isopropyl m-Chlorocarbanilate) in various plant species. Agricultural and Food Chemistry 17(6):1257-1260.

APPENDIX V

FORMS

OMB Approval No. 2000-0468

FIFRA SECTION 3(C)(2)(B) SUMMARY SHEET	EPA REGISTRATION NO.
PRODUCT NAME	
APPLICANT'S NAME	DATE GUIDANCE DOCUMENT ISSUED

With respect to the requirement to submit "generic" data imposed by the FIFRA section 3(C)(2)(B) notice contained in the referenced Guidance Document, I am responding in the following manner:

☐ 1. I will submit data in a timely manner to satisfy the following requirements. If the test procedures I will use deviate from (or are not specified in) the Registration Guidelines or the Protocols contained in the Reports of Expert Groups to the Chemicals Group, OECD Chemicals Testing Programme, I enclose the protocols that I will use:

☐ 2. I have entered into an agreement with one or more other registrants under FIFRA section 3(C)(2)(B)(ii) to satisfy the following data requirements. The tests, and any required protocols, will be submitted to EPA by:

NAME OF OTHER REGISTRANT

☐ 2. I enclose a completed "Certification of Attempt to Enter Into an Agreement with Other Registrants for Development of Data" with respect to the following data requirements:

☐ 4. I request that you amend my registration by deleting the following uses (this option is not available to applicants for new products):

☐ 5. I request voluntary cancellation of the registration of this product. (This option is not available to applicants for new products.)

REGISTRANT'S AUTHORIZED REPRESENTATIVE	SIGNATURE	DATE

EPA Form 8580-1 (10-82)

OMB Approval No. 2000-0468

CERTIFICATION OF ATTEMPT TO ENTER INTO AN AGREEMENT WITH OTHER REGISTRANTS FOR DEVELOPMENT OF DATA

(To qualify, certify ALL four items)

1. I am duly authorized to represent the following firm(s) who are subject to the requirements of a Notice under FIFRA Section 3(c)(2)(B) contained in a Guidance Document to submit data concerning the active ingredient:	GUIDANCE DOCUMENT DATE ACTIVE INGREDIENT
NAME OF FIRM	EPA COMPANY NUMBER

(This firm or group of firms is referred to below as "my firm".)

2. My firm is willing to develop and submit the data as required by that Notice, if necessary. However, my firm would prefer to enter into an agreement with one or more other registrants to develop jointly, or to share in the cost of developing, the following required items or data:

3. My firm has offered in writing to enter into such an agreement. Copies of the offers are attached. That offer was irrevocable and included an offer to be bound by an arbitration decision under FIFRA Section 3(c)(2)(B)(iii) if final agreement on all terms could not be reached otherwise. This offer was made to the following firm(s) on the following date(s):

NAME OF FIRM	DATE OF OFFER

However, none of those firm(s) accepted my offer.

4. My firm requests that EPA not suspend the registration(s) of my firm's product(s), if any of the firms named in paragraph (3) above have agreed to submit the data listed in paragraph (2) above in accordance with the Notice. I understand EPA will promptly inform me whether my firm must submit data to avoid suspension of its registration(s) under FIFRA Section 3(c)(2)(B). (This statement does not apply to applicants for new products.) I give EPA permission to disclose this statement upon request.

TYPED NAME	SIGNATURE	DATE

EPA Form [illegible] (10-82)

PRODUCT SPECIFIC DATA REPORT

EPA Reg. No.________________________ Date ________________________

Registration Standard for ____________________________________

Registration Guideline No.	Name of Test	Test not required for my product listed above (check below)	I am complying with data requirements by		(For EPA Use Only) MRID Numbers Assigned
			Citing MRID Number or EPA Accession Number	Submitting Data (Attached)	
§158.120 PRODUCT CHEMISTRY					
61-1	Identity of ingredients				
61-2	Statement of composition				
61-3	Discussion of formation of ingredients				
62-1	Preliminary analysis				
62-2	Certification of limits				
62-3	Analytical methods for enforcement limits				
63-2	Color				
63-3	Physical state				
63-4	Odor				
63-5	Melting point				
63-6	Boiling point				
63-7	Density, bulk-density, or specific gravity				
63-8	Solubility				
63-9	Vapor pressure				
63-10	Dissociation constant				
63-11	Octanol/water partition coefficient				
63-12	pH				

Registration Guideline No.	Name of Test	Test not required for my product listed above (check below)	I am complying with data requirements by		(For EPA Use Only) MRID Numbers Assigned
			Citing MRID Number or EPA Accession Number	Submitting Data (Attached)	
63-13	Stability				
63-14	Oxidizing/reducing reaction				
63-15	Flammability				
63-16	Explodability				
63-17	Storage stability				
63-18	Viscosity				
63-19	Miscibility				
63-20	Corrosion characteristics				
63-21	Dielectric breakdown voltage				
§158.135 TOXICOLOGY					
81-1	Acute oral toxicity, rat				
81-2	Acute dermal toxicity, rabbit				
81-3	Acute inhalation, toxicity, rat				
81-4	Primary eye irritation, rabbit				
81-5	Primary dermal irritation				
81-6	Dermal sensitization				

OMB Approval No. 2070-0057
Expiration Date 11/30/89

GENERIC DATA EXEMPTION STATEMENT

EPA Product Registration Number: ______________

Registrant's Name and Address: ________________________________

____

As an authorized representative of the registrant of the product identified above, I certify that:

(1) I have read and am familiar with the terms of the Notice from EPA dated ____________ concerning a requirement for submission of generic data on the active ingredient ______________ named under FIFRA Section 3(c)(2)(B).

(2) My firm requests that EPA not suspend the registration of our product, despite our lack of intent to submit the generic data in question, on the grounds that the product contains the active ingredient solely as the result of the incorporation into the product of another product which contains that active ingredient, which is registered under FIFRA Section 3, and which is purchased by us from another producer.

(3) An accurate Confidental Statement of Formula(CSF) for the above-identified product is attached to this statement. That formula statement indicates, by company name, registration number, and product name, the source of the subject active ingredient in my firm's product, or

The CSF dated __________ on file with EPA is complete, current and accurate and contains the information requested on the current CSF Form No. 8570-4. The registered source(s) of the above named active ingredient in my product(s) is/are ______________________ and their registration number(s) is/are ______________ .

(4) My firm will apply for an amendment to the registration prior to changing the source of the active ingredient in our product to one that is not registered and purchased.

(5) I understand, and agree on behalf of my firm, that if at any time any portion of this Statement is no longer true, or if my firm fails to comply with the undertakings made in this Statement, my firm's product's registration may be suspended under FIFRA Section 3(c)(2)(B).

(6) I further understand that if my firm is granted a generic data exemption for the product, my firm relies on the efforts of other persons to provide the Agency with the required generic data. If the registrant(s) who have committed to generate and submit the required data fail to take appropriate steps to meet requirements or are no longer in compliance with this Notice's data requirements, the Agency will consider that both they and my firm are not in compliance and will normally initiate proceedings to suspend the registrations of my firm's product(s) and their product(s), unless my firm commits to submit and submits the required data in the specified time frame. I understand that, in such cases, the Agency generally will not grant a time extension for submitting the data.

Registrant's authorized representative: ________________________________
(Signature)

Dated: ________________ ________________________________
(Typed)